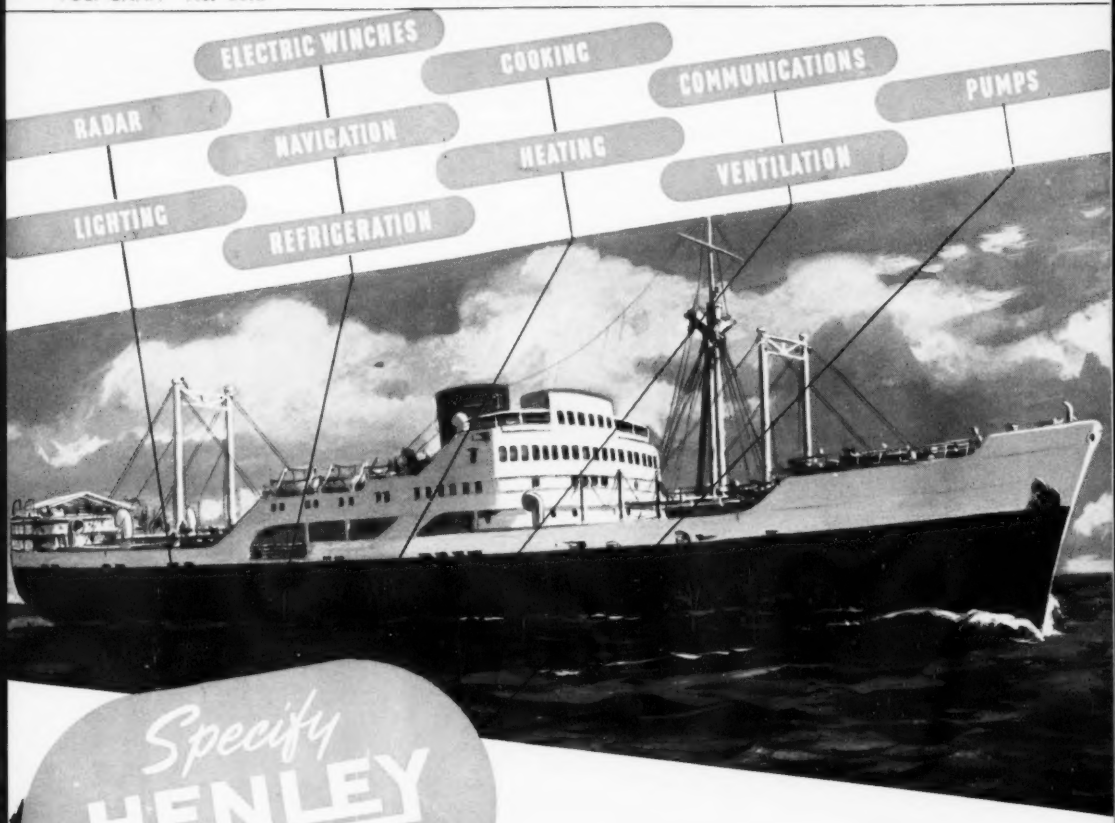
The
SHIPPING WORLD
AND SHIPBUILDING & MARINE ENGINEERING NEWS

VOL. CXXIV No. 3012 WEDNESDAY, MARCH 21 1951 Price 1/6



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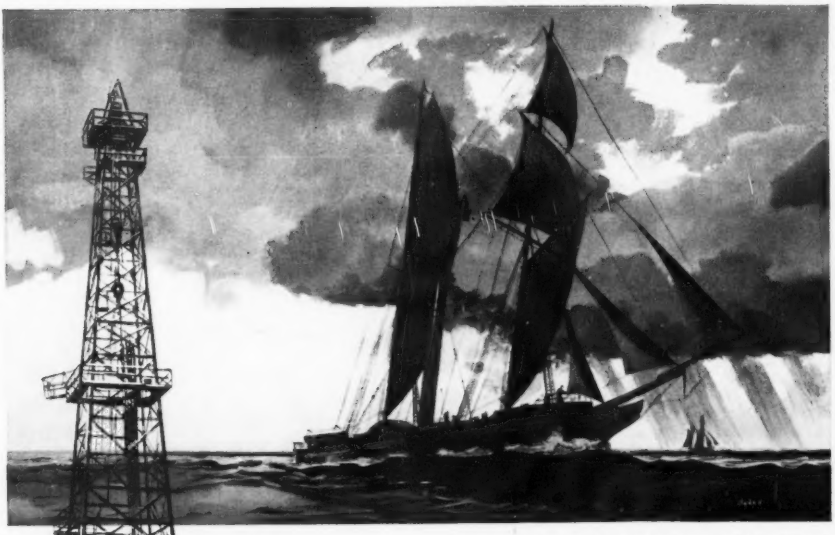

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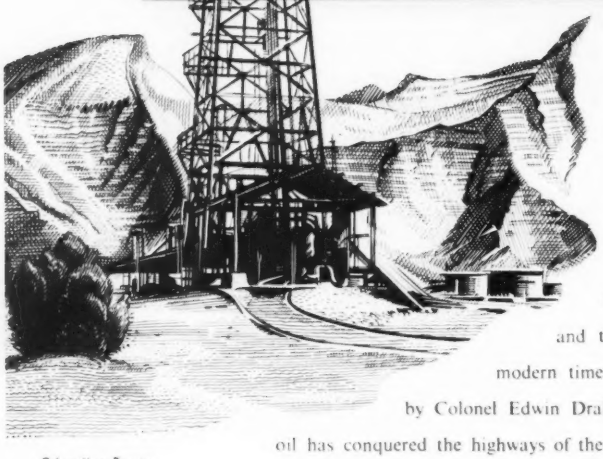

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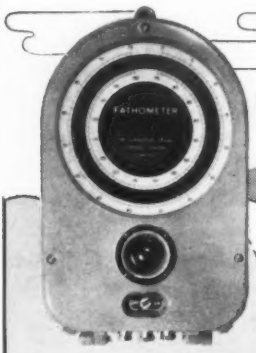

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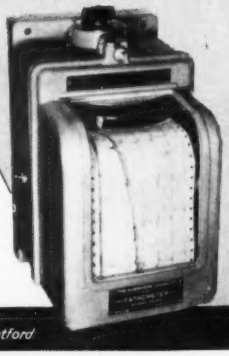

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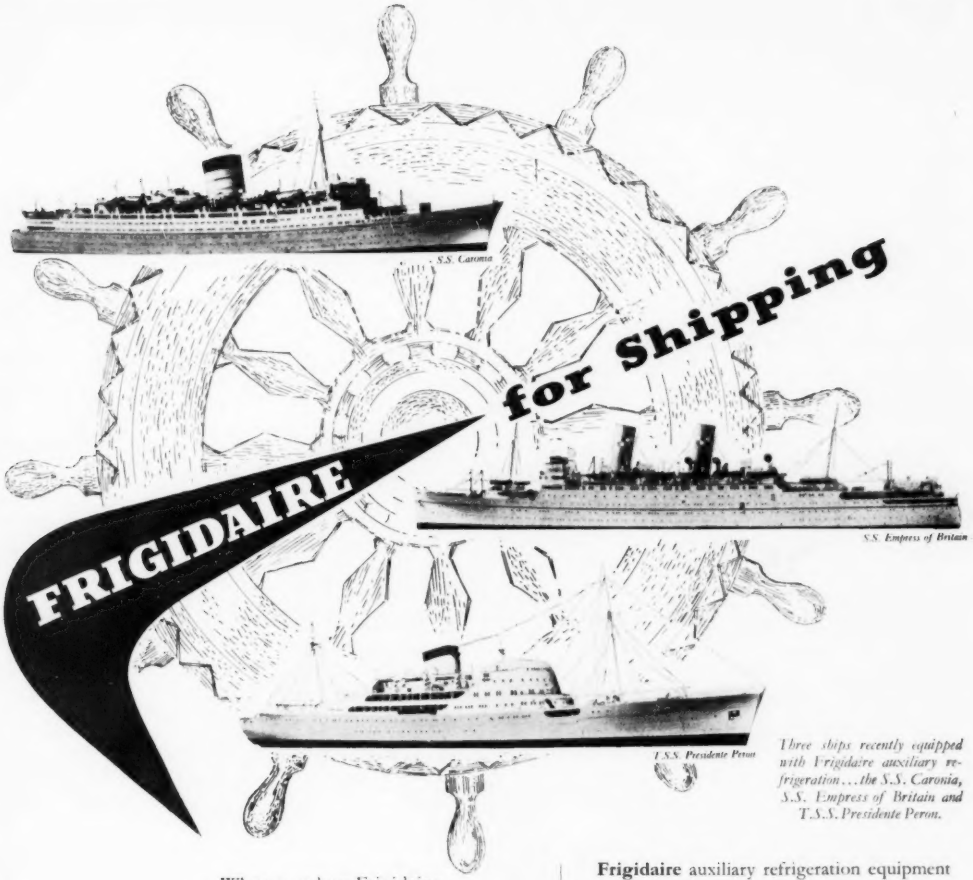

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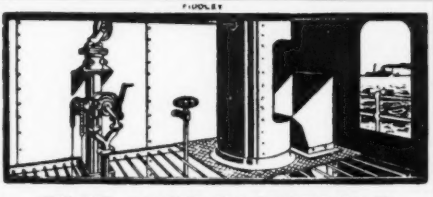

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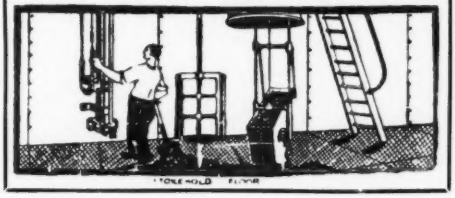

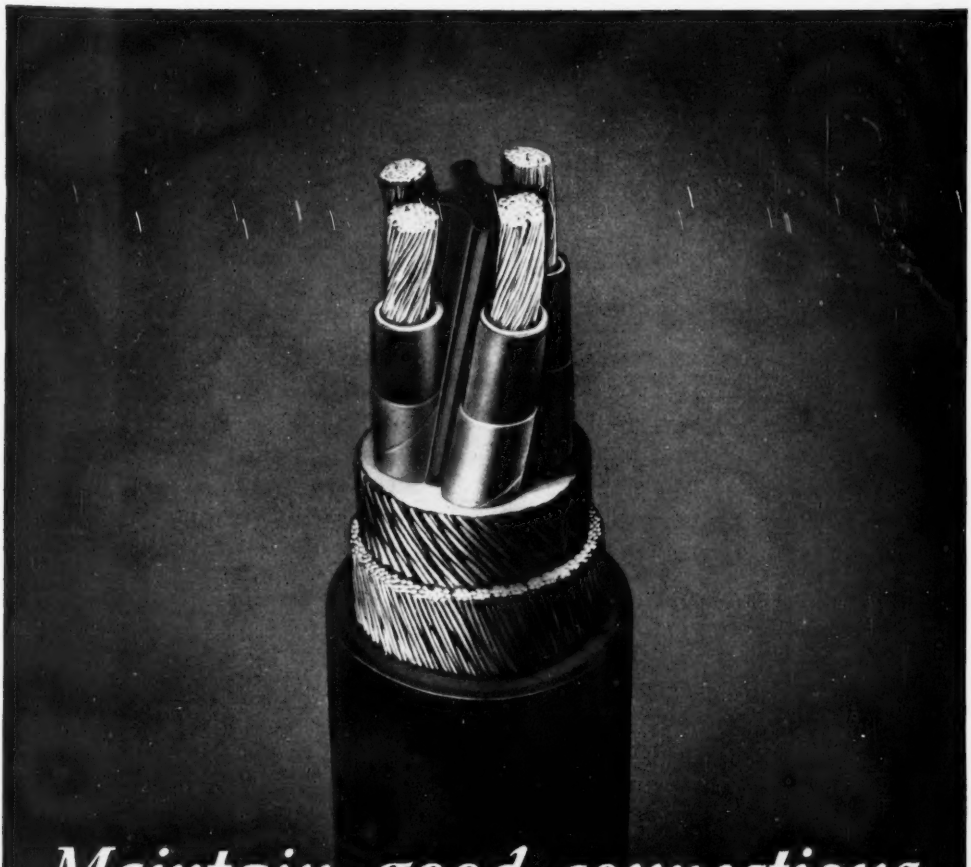

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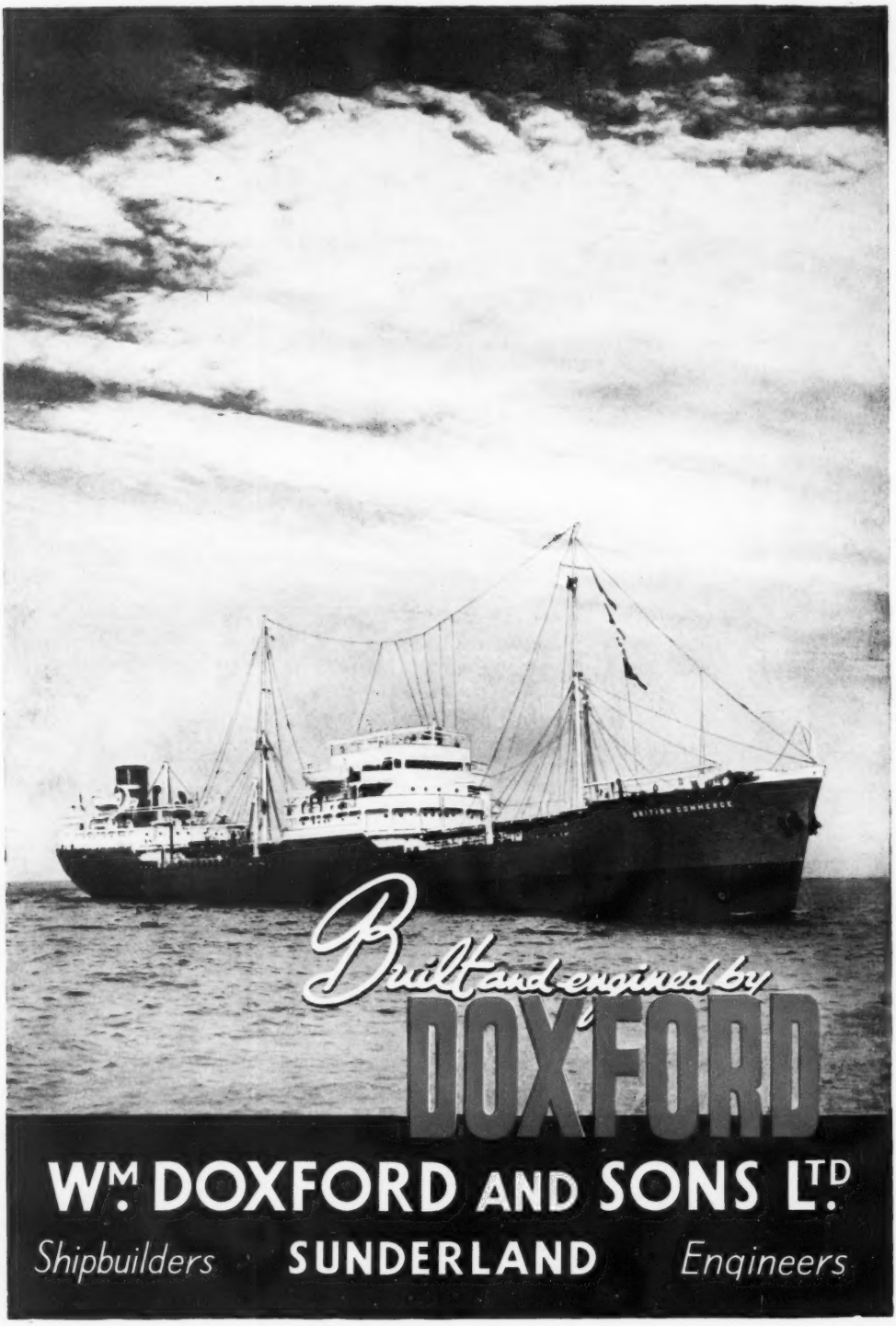
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Editor :—PETER DUFF *Managing Editor* :—RONALD KENDALL, M.C.M.S., A.M.I.N.A. *Advertisement Manager* :—M. B. FIELD

Annual Subscription 70s.

Head Offices : 1, Arundel Street, London, W.C.2. (Temple Bar 2523)
Telegrams : "Shipping World," London

Northern District Manager : W. S. Wilson, M.I.E.E., 27 Exchange Buildings, Newcastle-on-Tyne. Telephone : Newcastle 27078

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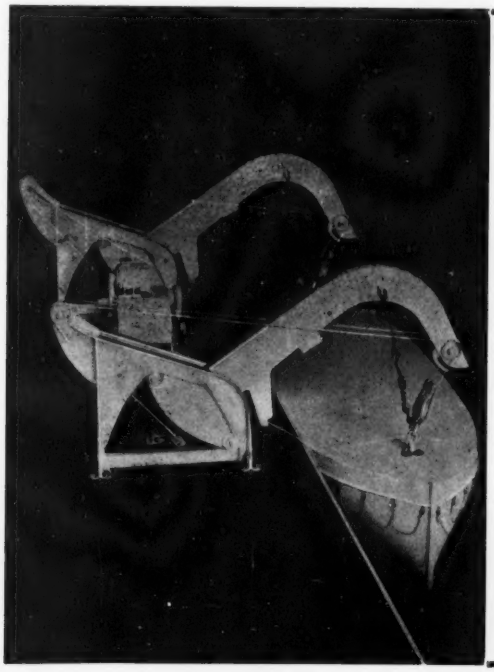

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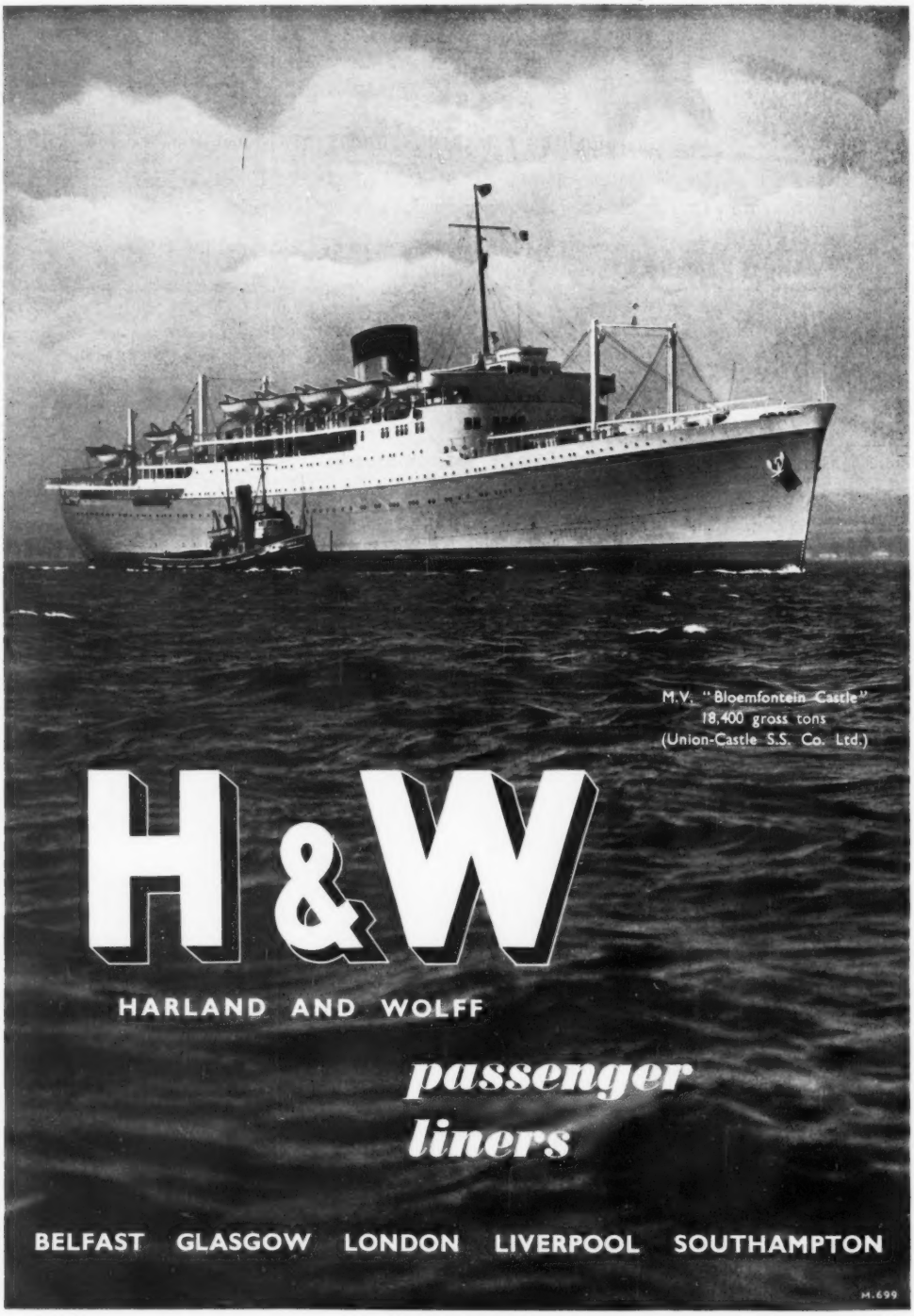
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PLAIN WORDS ON TONNAGE MEASUREMENT

THE REMARKS of the president of the Institution of Naval Architects at the opening of the Spring Meetings and the annual dinner are always read with great interest in shipbuilding and shipping circles, both in this country and abroad. Papers read before the Institution normally deal with technical aspects of naval architecture, but the president is not so limited in the comments he can make; he has a platform from which he can deal with almost anything affecting the world of ships. This platform was perhaps never used to better purpose than by Admiral of the Fleet Viscount Cunningham. A great deal might be said on any of the several points raised by the retiring president, but perhaps the one which most calls for comment is the vexed question of systems of tonnage measurement. It was revealed that a deputation from a committee convened by the Institution had been received by the Minister of Transport, and that the various recommendations made now are being considered by Mr. Barnes. This is no unimportant subject; it affects the design and construction of all future merchant ships, and as the country with the largest share of world shipbuilding Britain must play a leading part in any reform contemplated. The question may well be asked why any modifications in the system of tonnage measurement, evolved in this country and now universally accepted, are necessary.

The present system of British tonnage measurement is illogical, crippling in its effects, complicated beyond reason, and impossible of accurate estimating except by someone who has spent years in the rather depressing work of making a 19th century system fit 20th century ships. The rules regarding propelling power allowance form an obstacle to the achievement of the most economic form of ship and were evolved before any ship carried fuel in the double bottom. The exemption of cargo spaces, theoretically open to the weather, and attended by all the solemn farce of having bolted covers in forecastle and bridge fronts, or a small hatch in the shelter deck, which is deliberately made unseaworthy to justify exemption, are more in keeping with Lewis Carroll than the finest naval architects in the world, as British shipbuilders are.

The principal danger is that the problem will be only tinkered with, leaving many anomalies still to be dealt with by future naval architects, not necessarily, be it noted, by those in Britain. This country has always given the lead in ship and engineering design and we cannot risk the possibility of seeing the palm go to any other nation in evolving a modern system of tonnage measurement. Admiral Cunningham referred to the interest taken in the matter by the United Nations Transport and Communications Committee, while there have been other signs that British shipbuilders are not alone in their impatience.

The problem is one for the experts, and there are no better experts on tonnage measurement than the surveyors in the Ministry of Transport Marine Division, who have spent a large part of their lives in dealing with the matter. There is no doubt that if the Minister of Transport, whose reputation in shipping circles stands very high, can be shown that a reform must be carried out, his staff of naval architects are fully capable of producing an alternative which avoids the irritating anomalies of the present system while still being equitable as between ship and ship. Much has been said of the effect on existing ships, but this problem is not beyond solution. The total sum paid by the shipping interest to port authorities and other levying bodies must remain the same as before, and any inequality between individual ships which arises from a new system could be avoided by post-dating the ratification of part of the new measures. First priority in reform must be given to the rules for propelling power allowance, and second to the shelterdeck anomalies, but much remains to be done. There are good reasons for thinking that in the long run the best system would be to relate tonnage to displacement, and too much has been made of the difficulties surrounding this simple solution. If this basis could in fact be adopted and the rules framed so as to co-ordinate with the Loadline Regulations, the system of tonnage measurement might become an aid to seaworthiness instead of, as at present with the shelter deckers, one with a vested interest in holes in the deck.

Current Events

Profits and Monetary Depreciation

IN ORDER to prevent taxation from causing a constant decline in worldwide productive forces, owing to the inflationary pressures now resulting from rearmament, the International Chamber of Commerce, through its taxation committee, is urging governments to consider how profits should be defined for taxation purposes when the buying power of money falls in value. The problem, though simple, is not always sufficiently appreciated by business men, who are its chief victims. When the value of money falls, prices increase and goods or equipment, although sold at higher prices, must be replaced at similar high prices. The question is whether such an increase in sales or operating receipts should be taxed as a profit. Are the profits of a business in such circumstances properly expressed in the national currency without regard to changes in its purchasing power? The difficulties in the way of translating into practice the effects of inflation on profits and purchasing power are probably too great to

expect much consideration, but at least the economic facts of life must be taken into consideration by the Chancellor of the Exchequer when he prepares his Budget. A significant pointer in this direction, in Great Britain at any rate, is the number of companies which, despite the return of high profits, on paper, have to find new capital in order to replace their stocks or renew their plant. The present high level of taxation on profits does not make any allowance for the increasing costs of replacement, and this is a matter which undoubtedly affects the shipping industry more seriously and immediately than any other. Another problem of the moment dealt with by the International Chamber of Commerce is the great increase in the participation by governments in economic activity, and the universal increase in the proportion of the national income absorbed by governments. This, it is claimed, necessitates a review of the accounting methods adopted. The presentation of the business activities of governments should be governed by business principles, and the accounts should show clearly whether the net result is a net surplus or a loss calling for subsidies from the taxpayer. Too often, it would be the latter.

Conditions at the Ports

It is unfortunate that at a time when labour conditions at the ports of this country should be reviewed, a trade unionist, without knowledge or experience of the state of affairs, should have been appointed chairman of the National Dock Labour Board. Lord Crook has admittedly no qualifications for the position, but he has apparently a claim on the Minister of Labour for employment. It seems impossible to convince Ministers of the gravity of the position at the waterside. Shipowners have built faster ships, but their enterprise is made of no avail owing to the delays in port. Recently Sir William Currie, chairman of the P. & O. Steam Navigation Company, declared at the annual meeting of the Chamber of Shipping that British shipowners were powerless in face of labour conditions which extended time spent in port to extravagant proportions. The state of affairs has become steadily worse since the dock worker was given greater security, and the system under which he is paid, whether he has a job or not, has proved disastrous in its effects. Continental ports are giving shipping better and quicker service. At Rotterdam, Bremen, Hamburg, Antwerp and other ports, the hours are longer and the men are putting their backs into their work as they are not doing in this country. It is no excuse to claim that the situation is worse in Australia and New Zealand. It can be claimed that the Governments of those Dominions are tackling the problem with courage, while in this country the pleas for reform by shipowners and others intimately concerned are ignored as though it were a matter of no importance that carrying power is being wasted on a tragic scale. Ministers do not appear to realise that wilful waste leads to woeful want and that the slow turnround of ships reacts on the cost of living. The case for a thorough investigation of conditions at the ports is overwhelming and for that reason the choice of Lord Crook, unfamiliar as he is with matters of port transport, is a misfortune. No doubt he is a stouthearted Socialist and a loyal trade unionist, but he has no qualifications for such a key position as that to which he has been appointed.

Incredible Waste of Tonnage

It is little consolation to know that the rate of turnround at the moment in British ports is by no means the worst which can be experienced. At the annual meeting of the Liverpool Steam Ship Owners' Association Mr. C. D. Storrs, the retiring chairman, referred to the experiences of his own company in the Australian trade. During 1950 ships have waited in Australian ports for an average of over 82 days, days spent either in complete idleness or else discharging or loading in desultory fashion. The corresponding average for 1949 was 60 days, and in the previous year it was 56 days, but before the war a fair average was 27 days. This holding up of tonnage in Australian ports is equivalent to something like 50 vessels being withdrawn from profitable service for the whole year. In New Zealand the situation is even worse. Details have been published of the current voyage of the New Zealand Shipping Company's motorship *Haparangi*, which began to load in the United Kingdom on July 13 last. A month later she left Liverpool and arrived in Wellington in 35 days. No fewer than 65 days were spent discharging in that and two other ports, and 66 days were taken to load in Port Chalmers and Auckland, a total of 131 days, of which 55 were spent loading in Auckland. The ship took 37 days to reach London, on March 5. Discharge was completed at Avonmouth about 10 days later, so that the round voyage took some 246 days, of which the ocean passage accounted for only 72. The cost of these fantastic delays in Australasian ports is alarming, and it is no wonder that the Liverpool shipowners, largely liner companies which can maintain their schedules only by frantic efforts and improvisation, consider that the problem of turnround is one of the biggest which confronts them.

Controls Imposed on Port Working

Many factors have contributed to the growing delays in turnround in Australasian ports. To begin with, they are now having to handle a volume of imports more than three times as high as before the war, there is a shortage of labour and what labour there is works a 40-hour week and is subject to easy persuasion by Communist agitators. But there is one primary cause of trouble which is common to the port industry on both sides of the world, and that, according to Mr. Storrs, is the continuance of schemes of control which were imposed on the waterfront industries during the war by their respective Governments. In Australia the control of port labour has been taken away from the employer and placed in the hands of a Board with a Government official in charge at each port. In the United Kingdom under the National Dock Labour Scheme the control of port labour vests in local Boards under the joint control of employers and trade unions. The result in both countries is that the loyalty of the dock worker to an individual employer has been destroyed and the enforcement of discipline, at the same time, cannot be maintained. Mr. Storrs has echoed the sentiments expressed recently by Sir Colin Anderson, that the present dock labour scheme must be reviewed in the light of experience, for it is essential that the full responsibility for the control and discipline should be replaced in the hands of the port employers. "Until that is done," he warned, "indiscipline will continue and the efficiency of the industry will deteriorate." The gravity of the position should be brought to the attention of Parliament, so that M.P.s may realise the extent to which shipping space is being wasted at a time when every practicable economy should be made.

Naval Work in the Shipyards

Although it had been generally realised that the proportion of naval work undertaken in shipyards would increase considerably as a result of the rearmament programme, the figures given by Mr. Callaghan, Financial Secretary to the Admiralty, during the debate on the Navy Estimates must have caused some surprise. He stated that the proportion of the labour force of the shipbuilding and shiprepairing industries engaged on naval work, which in 1948 was 2 per cent, was now 11 per cent and would rise to 30 per cent by the end of 1952. When the figures are considered, however, his estimate is seen to be reasonable. The Estimates provide for contract work on ships and their equipment to a value of £35 million in the coming financial year, and a further estimate is to be introduced later. The Admiralty will thus be spending between £40 and £50

million in the shipyards in 1951-52. The value of the annual output of the shipyards of Great Britain might be estimated at £120 million, and when account is taken of the output of the repair yards, which must be of the order of £30 million, the figure of 30 per cent appears to be about correct. The effect of this programme superimposed upon the already full order books of British shipbuilders can only be to delay existing orders at present held up for lack of berth space. Not only will this force shipowners to wait longer for their new ships, but it will mean that when the ships are finally completed, the bill will be larger. The effect, however, may not be quite as bad as at first appears. Quite a large proportion of work is likely to be modernisation and refitting, which will be undertaken by repair yards at present short of work, and a further important part of it will be the construction of small craft such as minesweepers and patrol vessels, which will be undertaken to a considerable extent by boatbuilders and yacht yards.

Mainly Small Vessels

ALL the new ships to be built for the Admiralty under the rearmament programme are small, the largest being frigates. Little of the new work has been started yet, and the increase from 2 per cent to 11 per cent in the proportion of men on naval work since 1948 is mostly accounted for by the acceleration of work on six aircraft carriers and eight destroyers which were already under construction. The new construction comprises 218 vessels, of which 24 are frigates and the remainder minesweepers, patrol craft and other small vessels. Orders for 17 of the frigates have already been placed, but the Estimates list only the first four to be ordered. Two of these are being built in Royal Dockyards, with machinery supplied by Vickers-Armstrongs, Ltd., Barrow. A third is to be built and engined by Cammell Laird & Co., Ltd., and the fourth is to be engined by Vickers-Armstrongs, though the builders are not yet settled. It is likely that all the remaining 13 for which orders have been placed are to be built in private yards: ten are to be laid down during the present financial year. In all, warships to a value of more than £24 million are to be laid down in private yards this year. The minesweepers to be built, of which 41 have been ordered, are of two main types reported to cost about £100,000 and £150,000 respectively. The builders' names which have been announced are listed elsewhere in this issue. The main item in the conversion and refitting programme is the conversion of 15 destroyers to fast frigates. A good deal of this work will be undertaken in the Royal Dockyards (Rosyth Dockyard is understood to be taking a leading part), but it is improbable that the Royal Dockyards can cope with all these ships. In addition, those ships of the Reserve Fleet which are not being brought forward for service are to be given a second refit.

Engineers for the R.N.R.

FURTHER point was given by the debate on the Navy Estimates last week to the appeal of Vice-Admiral Sir Michael Denny, at the dinner of the Institute of Marine Engineers, for more volunteers for engineer officers for the Royal Naval Reserve. Mr. James Callaghan revealed that new steam machinery, with high pressures and temperatures, was being developed for the new frigates. This might, indeed, have been deduced from the recent announcement that Yarrow & Co., Ltd., and the English Electric Co., Ltd., were to collaborate in an investigation into the most suitable machinery for future frigates. The statement in the Navy Estimates themselves of the machinery builders of the new minesweepers being built, reproduced elsewhere in this issue, shows that they will be diesel engined. All this contrasts sharply with the past, for in the last war the great majority of escort vessels and minesweepers were powered by steam reciprocating engines. One of the great advantages of the reciprocating engine is its sturdiness and the comparative simplicity of the maintenance it requires, and the maintenance personnel for ships so equipped could be drawn from a large pool of suitably qualified personnel. Although the majority of existing escort vessels still have reciprocating machinery, all new construction is likely to have either high pressure steam turbines or diesel engines. In the event of another wartime expansion of the Navy, therefore, it is engineers qualified to maintain these types of machinery that would be largely required, and that would have to be either found or quickly trained. The importance of a body of R.N.R. engineers with the necessary experience, that can form the nucleus for such an expansion, is obvious, and the whole problem must be exercising the Admiralty considerably.

Analysis of Ship Performance

IT HAS been frequently said, with the greatest respect to research workers in model testing tanks and other establishments, that the most reliable experiments are those carried out with the full-sized ship. Unfortunately, opportunities for the use of actual ships in experimental work are rare, and they are usually limited to the trial trip in light condition. Trial trip results can be only of limited value and can never provide all the information required in operating the ship. The solution is not to be found, even if it were possible, in subjecting ships to exhaustive trials in all manner of conditions, for by the time all the data required was obtained the ship would be obsolescent. It is for this reason that Professor Bonebakker prepared his paper on the application of statistical methods to the analysis of service performance data, given before the North East Coast Institution of Engineers & Shipbuilders on March 9. The paper advocates improvements in the ways and means for collecting reliable and accurate records of engine output, propeller revolutions, and ship's speed through the water under varying service conditions, in addition to which statistical methods of analysis of the data are set forth. The statistical methods used minimise the amount of basic information required, while the set of curves of the generalised power diagram are reduced to a single straight line. Service performance data for three actual ships are analysed in the paper and sample calculations are given. The author suggests that measured mile trials, which are expensive in both time and money, should be abandoned, substituting endurance trials at varying proportions of the service horsepower in association with tank tests of a model under the same conditions. As it will always be necessary to calibrate the propelling machinery in some way or another, and the value of a short burst of speed, in light conditions and with the machinery working almost at its maximum output, has always been suspect, there seems much to be commended in Professor Bonebakker's proposals.

London and Overseas Freighters

FULL particulars have now been advertised of an application for permission to deal in the 250,000 ordinary £1 shares of London & Overseas Freighters, Ltd. The company was incorporated as a private company in June, 1948, to acquire a fleet of new motor tankers. Contracts were placed prior to incorporation for the construction of five such vessels. At the same time, to assist in the financing of their programme, the company acquired the share capitals of the Putney Hill, Tower and Dorset Steamship Companies, which together owned nine dry-cargo vessels. These three concerns were placed in voluntary liquidation in February, 1949. The purchase consideration was £1,750,000 in ordinary shares, and a further 750,000 shares were issued for cash at par in February, 1950. The company then became public. Its policy is the ownership of a composite fleet and orders have been placed for a further seven tankers and one cargo vessel. Part of the cost is coming from the sale of some of

the older dry-cargo ships. The present strength of the fleet is 85,000 tons deadweight, representing five dry-cargo vessels and two tankers, all on charter. Orders have been placed aggregating 203,000 tons d.w., of which the larger part will be on charter to the oil groups. The cost will be £9,571,000, of which £2,075,000 has been paid out of the company's cash resources. Profits for the year ending March 31 next are estimated at not less than £155,000 and for 1951-52 should considerably exceed that figure. They will rise as new tonnage comes into commission. The directors propose to pay a dividend of 5 per cent for 1950-51, and will limit the distribution to that rate for the three succeeding years. It is considered that the balance of undistributed profits of this period will provide a substantial sum which will go towards payment for new tonnage. Bank facilities will also be used for this purpose. The company will provide the investor with new access to the shipping industry and the shares seem likely to attract attention in the present active condition of the shipping share market.

Uncertain Trading Conditions

Difficult trading conditions were encountered in the year covered by the 1950 accounts of the Donaldson Line. There was a reduction in cargoes from Eastern Canada to Glasgow, while the suspension of meat shipments from the River Plate made it necessary to divert the group's two refrigerated ships to the Australia and New Zealand routes. In consequence, profits on completed voyages, etc., fell from £734,000 to £543,000. Fortunately various offsetting factors left the group with a net surplus considerably higher at £310,000, against £164,000. In the first place, special credits (mainly over-provisions for tax) were £104,000, compared with £19,000. Then the smaller earnings attracted a lower tax charge; the actual tax figure is £172,000, against £245,000. Finally the low written down value (£2,351,500) of the fleet reduced the depreciation charge by £163,000 to £189,000. In the ultimate result, therefore, the dividend of 10 per cent, compared with 6¼ per cent, had good cover. The preference dividend absorbs no more than £15,000 net and the ordinary dividend, to which is added a special payment of 5 per cent, not subject to income tax, from the capital reserve, takes £31,000 only. By contrast, the various transfers to reserves amount to £262,500. Long practice of conservative finance has brought reserves and liquid resources up to an imposing total. Reserves are now £3,993,000 or seven times the issued ordinary capital of £556,855. Current assets of £3,402,000 include £2,335,000 in cash, £59,000 in tax certificates and £738,000 in quoted investments. The net working capital at the close of the year was £2,843,000. Commenting on the figures, the chairman, Mr. Charles G. Donaldson, reports that, with the exception of the South American service, all traffics showed an increase in outward cargoes compared with 1949. This is sufficient indication of the success of the United Kingdom export drive; but Mr. Donaldson is unable to make any forecast in present conditions of doubt and uncertainty.

Casualties in February

The marine underwriting account of 1951 has made a bad start so far as casualties are concerned. Last January there were 50 more casualties than in the previous January and now the February casualty returns of the Liverpool Underwriters' Association show an increase of 45 over February 1950. There were 734 casualties entered in the Association's book, compared with 689, 597 and 730 in the preceding Februaries. Collisions were most numerous, totalling 174, followed by 144 cases of damage to machinery, shafts, etc., 126 cases of weather damage, 84 strandings, 33 fires and explosions and two strandings. No mine casualties were reported and the figures do not include two war casualties in Chinese waters. The total is made up by 171 "other casualties." After a spell comparatively free from lost propellers, three such casualties were reported in February, two of them to vessels of the Liberty type. Total losses in February consisted of four vessels, all steamers, aggregating 12,011 tons gross, compared with nine steam and motorships, aggregating 15,235 tons gross, lost in February 1950 and seven ships (11,334 tons) lost in February 1949. Taking the two months together, 1951 has shown a total of 1,461 casualties, compared with 1,366 in the same period of 1950, 1,319 in 1949, and 1,548 in 1948. It was towards the end of 1948 that the marked increase in casualties which had been noticed during the postwar period appeared to slow up, followed by a considerable lessening in 1949 and a less appreciable improvement in 1950, in which year some months showed more casualties than the equivalent months of the previous year. Now it would seem as if the reverse swing of the pendulum has begun and that casualties are on the increase again, although ten months remain in which 1951 can prove this theory to be wrong. If, however, casualties are on the increase, the situation will be even more inexplicable than it was in the immediate postwar years, when underwriters hoped for a decrease but attributed the unexpected increase to unrepaired damage and other wartime causes. Now merchant tonnage should be, and no doubt is, in a normal condition of upkeep, and practically all the wartime unrepaired damage has been made good. That casualties should increase so considerably in the first two months of 1951 may be fortuitous, but there seems to be a tide in such matters and it may be that the ebb of 1948 has ceased and the flow begun.

Panama Canal Traffic

Both commercial ocean-going traffic and the revenue from tolls in the Panama Canal have reached the highest figures for recent years, despite a considerable diminution in the volume of tanker traffic. Statistics for the calendar year 1950 show that 28,742,568 tons net of commercial shipping passed through the Canal, compared with 28,013,236 tons during the fiscal year ending June 30, 1950, which was a record. Tolls collected during 1950 amounted to $25,124,000, nearly $3,000,000 more than in 1949 and only one million dollars short of the record year for receipts—1930. There was a noticeable drop in tanker tonnage passing through the Canal from the west coast of the United States. During the last quarter of 1950 there were only 168 transits on the intercoastal run, compared with 253 in the same quarter of 1949. This drop was partly compensated for by an increase in traffic from the east coast of the United States to South America, in which transits increased from 229 in the last quarter of 1949 to 296 in the same period of 1950. There were no serious variations in traffic over other main routes. The *Panama Canal Review* has recorded that, unless there is a serious disruption of traffic through the Canal during the first six months of this year, the totals for tolls, transits and cargo for the fiscal year 1951 will probably be the highest since the peak levels achieved in 1930.

SAYINGS OF THE WEEK

INCREASING CENTRALISATION

"If the provincial centres are to be reduced to a set of rubber stamps waiting for orders from London there is not much hope for England. Make no mistake about it—Liverpool and other provincial centres are fighting for their very lives."—*Sir John Hobhouse*, speaking at the annual dinner of the Liverpool & District Branch of the Institute of Shipping & Forwarding Agents.

AN EXPLODED THEORY

"With foreign competitors—many of them willing to work longer hours with lower wages—eager to tempt away customers, it is of great importance that our own workpeople should be shown how their own and, indeed, the national interests are jeopardized by their perpetual insistence on easier conditions. The theory that men will work more cheerfully for the State than for the private employer has been surely exploded.—*Admiral of the Fleet Viscount Cunningham.*

ON THE "BALTIC"

THE INTRODUCTION OF VESSELS FROM U.S. LAID-UP RESERVE

By BALTRADER

The small supply of early tonnage and the large number of unfilled orders continue to influence the market in owners' favour; but one wonders what will result from the action which is being taken in the United States to establish a lower freight level for movement of E.C.A. exports and strategic imports. The large batch of laid-up vessels which are expected to be in commission before long will, it is understood, carry wheat to India at W.S.A. rates. Most of the countries which will import wheat or coal from the United States will require E.C.A. assistance, which will be given subject to a freight rate of $2 below the W.S.A. schedule in the case of vessels other than American. This basis is about $4 per ton below the present general level of freights on the free market. Plenty of employment seems to be assured for the coming months, but it seems likely that the United States will contribute less to the buoyancy of the freight market.

Sugar cargoes are offering at good rates from Cuba or San Domingo to the United Kingdom, the Continent, Japan and Pakistan. Wheat from the St. Lawrence will, no doubt, account for a considerable quantity of tonnage in the summer months, and orders from Churchill are already being quoted. A market which has most unfortunately shrunk to small importance is that for sulphur from the Gulf of Mexico to the United Kingdom. In other quarters, notably South Africa, India and the Far East, there is no sign of the tonnage supply outrunning demand, which is actively maintained. The River Plate market is a small one—not many orders but not many ships available, actually about a dozen ready between now and the end of April.

High Time Charter Rates

Time charter inquiry is moderate in quantity, but the high rates of hire which are being paid show how scanty is the supply of shipping at the disposal of charterers. Rates of freight homewards from the Mediterranean have lately been inclined to grow firmer. Large coal-burning vessels which would otherwise have been offered for ore from, say, Bona have been more profitably dispatched across the Atlantic to load coal for Europe. In the case of medium and small vessels the price of bunker coal at the foreign depots has been the over-ruling factor. Every extra mile in the length of the voyage has to be considered in the light of the restricted supply of bunker coal at moderate price, say, about 80s. per ton, which can be obtained in the United Kingdom. Much of the homeward run from the Mediterranean has to be made with bunkers costing 180s. per ton. On the other hand, it is often possible to obtain bunkers sufficient to run out in ballast to North Spain, Huelva and Casablanca and return to the United Kingdom without topping up. The advantage of these short trips has lately prevented freights on this side of Gibraltar from moving up in step with those paid for loading inside the Mediterranean. Of the latter, the firmest in recent weeks have been those for esparto from Algeria, which have risen from 110s. to 150s. for loading in Algeria, while even 180s. has been paid from Tunisia to the United Kingdom. Barley cargoes, also, from North Africa have been chartered at much increased rates in the past few weeks, although not many fixtures have been reported on the Baltic.

In the case of barley in bulk from Algeria and Morocco, there has been a shortage of vessels fitted with shifting boards. Without these, no vessels must arrive in the United Kingdom from the Mediterranean, although they may discharge on the Continent without objection by the local authorities. Through some oversight the British regulations permit bulk barley to come to the U.K. without shifting boards from Atlantic Morocco, although the most dangerous part of the route is in crossing the Bay of Biscay, whether coming from the Mediterranean or from Western Morocco. Some owners consider that it is best to ignore these official distinctions, which make no sense anyway; they fit shifting boards to carry bulk barley or they take a less fluid cargo. There are other anomalies in the rules for carriage of bulk grain which have little relation to the one question that matters: is the vessel safe if bad weather should be encountered, as may happen in any part of the ocean without exception? Universal rules are to be desired in order to ensure that no owners or importing countries are penalised.

The Freight Markets

Active chartering for coal from Hampton Roads has continued during the past week. Fixtures from Hampton Roads include, *Longview Victory* to Rotterdam, $13.75, early April; *Rask* to Denmark at 120s., 1,200, daily discharge at current rate, 10/25 May; *Tergeste* to West Italy for two trips at $13.50 and $12.75, commencing in May, and *Rubystone* to Montevideo at $20, April. The *Ramses II* has been fixed for sulphur from Galveston or Port Sulphur to the United Kingdom at 142s. 6d., April/May, and *Erato* is chartered for sulphur from Galveston to Santos at $21.25, 15/30 April. Cuba to U.K., sugar, has been arranged at 160s., April, 155s. May and 150s. June. Several vessels have been chartered for wheat from the St. Lawrence to the United Kingdom at 22s. 6d. per quarter, June and July, which compares with 7s. 9d. accepted early last season. A W.R. Smith vessel is fixed for heavy grain from Gulf to India at 175s., May/June. The River Plate is quiet but steady; *Serantes*, 5,300, is fixed from up and down river to Antwerp at 137s. 6d., heavy grain, with option Cork or Dublin at 147s. 6d., option Cork or Dublin and Antwerp at 150s., March/April. The *Radley* is fixed from North Pacific to U.K./Continent at 155s., heavy grain, 1/31 May. The *Troja* or substitute, 9,300 tons, has been taken for bulk wheat ex silo South Australia, Victoria or New South Wales to Antwerp-Hamburg range at 165s., July/14-15 September. The *Pinos*, 9,500 tons, is fixed from Dairen and Chinwangtao to Antwerp or Rotterdam at 200s., f.i.o., soya beans and/or maize, option Hamburg at 205s., April. The South African coal charter market is firm: a Clan Line vessel is fixed from Durban or Lourenco Marques to Copenhagen at 142s. 6d., May/June. Recent time charter fixtures include *Wendover* (m.v.), 8,590 d.w., 532,000 ft. bale, 15 knots on 17 tons, 52s. 6d. per month for a trans-Atlantic round, prompt delivery on this side.

Air Charter Business

Inquiry continues for aircraft for commercial account to carry chemical and other manufactures to the Far East. This is in addition to the requirements of the Services in the same direction. Vegetables are moving by air from the Continent to this country. The Airbrokers' Association has become recognised as a power in the development of air charter. It was asked to represent the British National Committee of the International Chamber of Commerce and sent two members to the Air Transport meeting last week.

The following have recently been elected members of the Baltic Exchange:—

Messrs. R. C. Salmon (Louis Dreyfus & Co., Ltd.); J. K. Mann (Killick, Martin & Co.); M. J. Lyras, K. J. Lyras and M. H. Polglase (Lyras Brothers, Ltd.); R. F. Barker (Fairclough, Dodd & Jones, Ltd.); E. C. Braine (Thos. & Jas. Harrison); C. D. Rallis (Fenton Steamship Co., Ltd.); H. Lange and F. C. Haynes (H. Lange, Bell & Co., Ltd.); H. V. Flower (Herbert Watson & Co., Ltd.); and A. Reid (Matheson & Co., Ltd.).

COAL AND OIL

TROUBLE IN IRAN

Should the decision of the Iranian Parliament to nationalise the country's oil industry be fully implemented, its effect on the oil industry of Great Britain would be extremely serious, to say the least, and the repercussions would undoubtedly be felt in some measure by the shipping industry. It is too early as yet to estimate the chances of this event materialising, but it seems more probable that it will not do so. Decisions taken in a heated assembly chamber are often regretted when considered later, and although there is certainly a general feeling throughout Iran that the country's most important industry should not be owned by a foreign concern, the antagonism to the Anglo-Iranian Oil Company appears to have been whipped up by a section of the Parliament which has an interest in preventing too much revenue from reaching the hands of the Government, so as to delay or prevent reforms which would be disadvantageous to their personal interests. There is no chance of anything being done immediately, as the committee which had been considering the advisability of nationalising the oil industry, and had reported in favour of it, has been given a further two months' lease of life to consider the implementation of the decision. The interests of the small group which has led the demand for nationalisation will not coincide for ever with the larger body actuated solely by national pride, and it may even be that the further deliberations of the committee may be sufficient to cause a split. It is perhaps a pity that the offer by the company of a 50 per cent share in the profits could not have been made sooner. Had it been proffered a year ago, it is likely that it would have been accepted and would have taken the wind out of the sails of the reformers. Now, probably the best that can be hoped for is an arrangement whereby the company is nominally nationalised, but effectively the basis of the new agreement offered is accepted.

London Tanker Brokers' Panel

Some details have been announced of the working of the London Tanker Brokers' Panel. This panel was first set up early in 1949 to provide an authoritative and impartial assessment of the current time charter rate in the London market. The use of time charter rates as an index of freight levels has for long been a common practice in many quarters of the oil industry in dealings (such as inter-company chartering or tonnage exchanges and supply contracts of extended duration) which require a fair and reliable measure of the longer term trend of the market, as distinct from the more temporary and sometimes extreme movements in spot voyage chartering. In conditions such as have prevailed in recent years this practice has been growing in application as the need for a more stable index than the voyage freight has been felt in an increasing number of directions. The panel makes its assessment—referred to generally as the award—at six-monthly intervals on April 1 and October 1 in the form of a time charter rate for 24 months' fixtures as applicable on or about the date of the award to a defined standard tanker. While the award is quoted as for a standard tanker, its assessment is made on the basis of the panel's knowledge of the market generally at the time, including, therefore, the market for all tankers within a broad range for which dealings are reasonably comparable, namely, 12,000 to 16,000 tons d.w. From the basic time charter award the equivalent trip or voyage freight for any required voyage can be directly calculated by the accepted trade formulae. Such voyage rate equivalent will then reflect the fundamental market trend of freight not unduly inflated or depressed by temporary or abnormal circumstances.

The Newcastle Coal Trade

Although coal exports from the Tyne continue, as might be expected in view of the national coal situation, to show a decline, the steady increase in the volume of coastwise shipments has done something to redeem the position for the coal handling trade. When presenting the accounts for last year to the Tyne Improvement Commission, Sir William Souter reported in the course of his speech that these trends were maintained in 1950, when coastwise shipments formed 80 per cent of the total quantity of coal leaving the Tyne. Coastwise shipments amounted to some seven million tons, which may be compared with an average of 4½ million tons for the five years up to 1938. Foreign shipments of coal, on the other hand, were only 1,522,000 tons. This is a decrease of 47,000 tons compared with 1949, and may be compared with an average export total of 6¾ million tons before the war. Sir William was able to state that rather more than the whole of the increase in coal shipments last year, namely 695,000 tons, came from the Commission's own docks and staiths. Of coal exports it was noteworthy that the quantities to Denmark increased by 109,000 tons, and to Italy by 54,000 tons. Coal bunker shipments continued to recede, and at 375,000 tons were 62,000 tons less than the previous year. These figures are an indication of the continued changeover to oil-burning vessels. On the other hand, shipments of coke increased by 95,000 tons last year, and total 545,000 tons.

OFFICIAL NOTICES

New Companies

Melan Shipping Co., Ltd., at the offices of E. E. Dean & Co., Ltd., Bevis Marks House, Bevis Marks, London, E.C. Registered February 28. Nominal capital: £1,000 in £1 shares. Directors: Not named. Subscribers: Doreen Cronin and J. M. Bullard, 6 Austin Friars, E.C. (clerks).

Brila Shipping Co., Ltd., 44 Hans Place, Knightsbridge, London, S.W.1. Registered March 2. Nominal capital: £25,000 in £1 shares. Directors: Janis Millers, c/o Hudson Steam Ship Co., Ltd., 3 Lloyds Avenue, London, E.C.3. (ch.).

[Information from *Jordan's Daily Register of New Companies*]

Increase of Capital

Sir James Laing & Sons, Ltd., Deptford Yard, Sunderland.—Increased by £108,179, in 10s. shares, beyond the registered capital of £391,821.

Polish Shipping Plans

The Polish State fleet, which is to be enlarged fairly appreciably under the "six-year plan," is aiming to adopt a leading role in Baltic shipping. All the efforts of the Polish Shipping Corporation are directed towards becoming overseas freighting agents for the eastern and south-eastern European "people's democracies." Already special tariffs are aimed at directing more goods than heretofore by way of transit through Szczecin. Closer links are also being sought with present-day China. A shipping agreement was recently signed between China and Poland, which envisages the formation of a Polish-Chinese Shipping Company. Polish ports are promising themselves, arising from this treaty, appreciable development as a transhipment point in trade between China with East and South-East Europe. The Gdynia-Tangku/Tientsin route is already served by the Gdynia-America Line.

The port of Szczecin is endeavouring by cheaper tariffs and particularly by affording speedier turnround to enhance its power of attraction. The opening of a transhipment port in Swinemünde is envisaged and as a bunker station Szczecin is likely to become prominent. The transhipment rates in the port were recently lowered by 20 per cent and laydays have been reduced by 15 per cent through "labour rationalisation." At present the export of Polish coal and ore imports from Sweden form the bulk of the traffic.

Liverpool Steam Ship Owners' Association

TONNAGE LOST THROUGH DELAYS

THE EFFECTS OF TAXATION, BULK BUYING AND DELAYS IN PORT

AT THE annual meeting of the Liverpool Steam Ship Owners' Association yesterday Lt-Col. Austin G. Bates, a director of Thos. & Jno. Brocklebank, Ltd., was elected chairman, and Mr. S. M. Shaw, a director of the Hall Line, Ltd., was elected vice-chairman. Presenting the annual report the retiring chairman, Mr. C. D. Storrs, referred to the invaluable help he had received during his term of office from Mr. Martin Hill and his assistants, and from the vice-chairman, particularly in regard to the problems of merchant ship defence. As far as this subject was concerned, he said that not only the overall organisation of shipping services had been closely under review by the General Council of British Shipping and the authorities, but the detailed modification of ships to meet the various forms of the menace of war was now being undertaken by appropriate committees.

Taxation was another subject of concern. Its incidence on the ability of liner companies to retain sufficient of their profits to cover the inflated costs of replacement was continually under review; but the two subjects to which he drew particular attention were the frustration to the efficient conduct of business suffered at the hands of bulk buyers, and the inability of so many ports to handle the cargoes required. Turnround in ports was probably the biggest problem. It was the very essence of a liner service to maintain regular sailings, which in turn meant regular schedules. The delays in the majority of the ports of the world rendered nugatory nearly all their efforts. In a few trades, by the exercise of almost superhuman pressure by the management on all concerned, schedules had been maintained, but in most trades what was virtually disorganisation reigned. Mr. Storrs took for an example the Australian trade.

Ships of my company's fleet have waited in port on the Australian coast during 1950 for an average of over 82 days, spent either completely idle or in a desultory fashion discharging or loading their cargoes. The corresponding average for 1949 was 60 days, and for 1948 it was 56, whereas in prewar days a fair average was 27. When one considers the enormous number of ships involved in this trade, this wastage is dreadful and is equivalent in toto to something in the neighbourhood of 50 ships being completely withdrawn from profitable service for the whole of the year by reason of the delays in Australia alone. What a difference in the market situation this would make! Is it not almost criminal that this should occur when the demands for tonnage for strategical and other purposes are so great? The situation in New Zealand has been even worse. There are many reasons for the trouble in Australia—shortage of labour, the 40-hour week, the lack of development of ports to handle an import trade which is more than three times that of prewar, are among them.

One Primary Cause

But there is one primary cause which is common to the industry on both sides of the world, and that is the continuance of schemes of control which were imposed on the waterfront industries during the war by the respective Governments. These have taken away the control of labour from the employer, placing it in Australia in the hands of a Board with a Government servant in charge at each port, and here in local Boards under the joint control of both employer and trades union. The result has been the same in both places. The loyalty of the employee to an individual employer has been destroyed, and at the same time the enforcement of any real discipline has lapsed. The individual foreman's actions are subject to review by controls. Indeed, it is so difficult to get rid of anyone on the grounds that he is generally unsatisfactory that indiscipline is all too often not reported. Before any real efficiency is achieved drastic alterations will have to be made to such schemes, for it is essential that the full responsibility for the control and discipline should be replaced in the hands of the port employers. Until that is done indiscipline will continue and the efficiency of the industry will deteriorate.

The Annual Report

THE CURRENT PROBLEMS OF BRITISH LINER COMPANIES

THE gross tonnage entered in the Association at the beginning of 1951 totalled 4,252,728 tons, compared with 4,374,785 tons at the beginning of 1950, and 4,511,300 tons in 1939. The reduction in the entered tonnage for 1951 is almost wholly due to the withdrawal of one member. It would seem that new tonnage during the year has taken care of replacements and no more. War losses have in the main been made good, but only by the inclusion of war-built standard type vessels which can only at best be considered as stopgap tonnage with a considerably faster rate of depreciation than tonnage built to owners' specification, and requiring, therefore, replacement at an earlier age than normally would be the case.

The first appearance of the 1950 figures of overseas trade is one of appreciable progress and therefore one for satisfaction. Exports other than coal increased materially and in weight exceeded those of the last prewar year by as much as 35 per cent and were within reach of 1929, the best of the trading years between the wars. Further, the exports of 1950 were being placed at the disposal of buyers at prices which were closely comparative with those of the previous years and which were therefore capable of being competitive. With this increase in visible exports, coupled with greater invisible exports consequent on the rise during the year in the quantity and value of shipping and other services rendered, the national trading accounts, as represented by exports on the one hand and imports on the other, show a credit balance for the first time since 1935.

Without intent to belittle the striking achievement which the increase in exports represents, it is, however, necessary to stress that the conditions prevailing in 1950 were exceptionally favourable for the attainment of the result achieved. It seems clear that the reduction in the weight of imports in 1950 has to be attributed to stocking up in the course of the earlier year, prior to and in anticipation of the likelihood of devaluation, and living during 1950 to some extent on stocks thus in hand. Certainly, if exports are to be maintained and improved, it cannot be expected that imports of raw materials will decrease as they in fact did last year. As regards cost, the full advantages of devaluation were enjoyed in 1950 and its disadvantages had not begun substantially to be felt. Next year, there must inevitably be reflected in the export prices the great increase in the cost of the imports of raw materials consequent on devaluation. In addition, there has to be taken into account the higher cost of imports of food and the increases which have taken place over recent months in the cost of coal and other internal items, the costs of which affect our costs of production as a whole. The costs of production of our exports continue to increase and, by reason of devaluation, will now be the subject of further heavy increase. American financial aid since the end of the war has prevented the urgency of the situation from emerging in its true light. The nation is now fully faced with the unpalatable fact that its standards of living are and must be those which are earned and no more. In these circumstances of continuing struggle to pay for our imports, it is lamentable that the coal industry continues to make so small a contribution to the export drive.

TABLE I.—IMPORTS BY WEIGHT

Tons weight in thousands (000 *omitted*)

	1929	1938	1948	1949	1950
Food, tobacco, wines, etc.	19,000	22,000	16,000	15,400	14,500
Raw materials	25,100	26,300	24,000	27,400	25,500
Crude petroleum	1,900	2,300	4,700	6,200	9,500
Manufactures	8,400	7,300	4,700	4,800	4,300
Refined petroleum	6,100	9,400	12,500	11,500	9,400
Total	60,500	67,300	61,900	65,300	63,200

TABLE II.—AVERAGE IMPORT VALUES PER TON WEIGHT

	1929 £	1938 £	1948 £	1949 £	1950 £
Food, tobacco, wines, etc.	28.2	19.6	55.5	62.9	71.0
Raw materials	13.3	9.2	27.2	26.8	36.2
Crude petroleum	2.6	2.2	6.6	6.5	7.8
Manufactures	35.2	27.5	81.9	88.0	109.4
Refined petroleum	6.3	4.3	9.9	9.3	12.8

TABLE III.—SHIPPING TONNAGE EMPLOYED IN BRINGING IN U.K. FOREIGN TRADE, AS SHOWN BY TONNAGE ENTRANCES

Tons net in thousands (000 *omitted*)

	1929	1938	1948	1949	1950
British	40,747	38,908	34,673	36,106	36,003
Foreign	21,954	29,464	15,881	18,782	21,497
Total	62,701	68,372	50,554	54,888	57,500
Per cent British	65.0	56.9	68.6	65.8	62.6
Estimate of cargo carried per 100 tons net of shipping entrances : tons weight	96	98	122	119	110

TABLE IV.—EXPORTS BY WEIGHT

Tons weight in thousands (000 *omitted*)

	1929	1938	1948	1949	1950
Exports	15,400	10,500	11,400	12,600	15,200
Re-exports	1,550	970	460	300	320
Total	16,950	11,470	11,860	12,900	15,520
Average export values per ton weight £					
Exports	43.9	41.1	135.0	136.9	138.6
Re-exports	70.8	63.5	140.0	195.4	265.8
Total	46.4	42.9	135.2	138.2	141.4

TABLE V.—COAL EXPORT TRADE

Year	*Weight of Exports. Tons in thousands* (000 *omitted*)	*Average Export Value per ton weight* £
1929	64,401	0.820
1938	38,196	1.066
1948	11,567	3.771
1949	15,955	3.743
1950	16,151	3.740

TABLE VI.—SHIPPING TONNAGE EMPLOYED IN EXPORT OF U.K. FOREIGN TRADE, AS SHOWN BY TONNAGE CLEARANCES

Tons net in thousands (000 *omitted*)

	1929	1938	1948	1949	1950
British	45,342	34,512	25,642	29,045	31,509
Foreign	23,342	24,367	10,123	12,473	13,764
Total	68,684	58,879	35,765	41,518	45,273
Per cent British	66	59	72	70	70
Estimated clearances with coal at 220 tons weight to 100 tons net	29,273	17,362	5,258	7,252	7,341
Estimated clearances with cargoes other than coal	39,411	41,517	30,507	34,266	37,929
Total	68,684	58,879	35,765	41,518	45,273
Estimated weight of cargo other than coal, carried per 100 tons net of clearances	43	28	39	38	34

Notwithstanding the fact that the war losses have been now largely replaced by new building, there remains an enormous task of further replacement, within a decade or so, of stopgap and older tonnage. The performance of that task over the years that lie ahead is being imperilled by the extent to which the Government, through taxation, is denuding the liner companies of the funds that they should be accumulating for the purpose. At the same time, the best use of the existing ships in the interest of their owners and of the nation is being hampered and prevented by the errors and miscalculations of Government departments and by unnecessary delays in ports, here and abroad.

The capital replacement of ships necessarily requires an earning capacity in excess of the current needs of ship operation and the accumulation and provident investment of the surplus. For this reason, the Association has consistently maintained that a "profit" for taxation purposes has not arisen until proper provision for the periodic replacement of the tools of the trade has been made, and that the shipping industry cannot, in the long run, carry on if it suffers taxation at high level on that part of its so-called taxable profits which it necessarily retains in the business for replacement purposes. In fact, the shareholders who own the business have been deprived of the profits of their venture in order to permit of the continuance of their business in existence. So long as such money, so set aside for replacement, is in fact so used and never accrues to the shareholders in the form of distributed profits, it should not be taxed as though it were profit available for distribution. The answer that the revenue authorities have from time to time made to these contentions is that shipping as an individual industry has no special claim to tax relief on earnings set aside for replacement of the tools of its trade and that its propositions, if sound, apply and must be applied to industry as a whole. If the statement is true that maintenance of the present incidence of taxation must in time, and within a comparatively short space of time, deprive the nation of the ships which are essential to its existence, it is no defence of the system that other industries are being similarly imperilled.

At the same time as the future of the shipping industry is thus being imperilled by excessive taxation, existing carrying power is being misused and unnecessarily wasted. Any liner company can produce many instances of disturbances to its services by the unpredictable actions of our bulk buyers, who refrain in their alleged wisdom from buying and then come into the market with sudden demands for prompt shipment which can only be met by sacrifices bordering on the heroic—demands for supplies to be lifted in a few months that would normally and sensibly be spread evenly over a year and, so spread, would be handled with ease and efficiency by those whose job it is to handle them.

Effect of Port Delays

Delays in port continue to disturb and hamper the efficient conduct of the carrying trade. The waste of carrying space from these delays is disastrous and sets at nought all the advantages which should flow from the improvements in speed, cargo working and carrying capacity of the ships themselves. In the principal ports of this country, the turn-round of ships is far from satisfactory in comparison with prewar. The improvement which has been effected since the war ended is inadequate and has largely been achieved by high and unwarranted expenditure required to bring it about at all. Unofficial and totally unjustifiable strikes contribute to defeat the endeavours of the industry to make the best use of its ships. The Dock Labour Scheme has increasingly failed to provide its customers—the shipowners and the traders—with the service that the needs of the overseas trade of the country demand. There seems no knowledge or sense of urgency of the economic perils that lie so nearly ahead and no appreciation of the intense endeavour needed to avoid them and the threat of national bankruptcy that they entail.

Delays of this kind occur in many other countries in varying degree and Australia is an example of their gross occurrence. The cost to the Australian economy of their inefficient ports has not been calculated, but it must inevitably be reflected in their cost of living. The cost of it to the lines who use those ports can be illustrated in a few telling figures. The outward trade from the U.K. to Australia in 1950 required no less than 402 sailings. With the exception of 47 mail ships which operate to a schedule and handle only comparatively small quantities of cargo, every ship is taking an average of some four weeks longer to discharge in Australia than would be necessary in almost any other part of the world. In the result, over 350 months of unnecessary idleness have been suffered in the trade or, to put it another way, 30 ships have effectively been withdrawn for 12 months from useful employment. The recent import coal requirements of the U.K. could have been lifted without disturbance by ships equivalent in tonnage to that thus wasted through the inefficiency of the ports in Australia. Further, the above figures relate only to the trade to Australia out of the U.K. They leave out of account the ships proceeding outwards with cargoes from the Continent. A rough estimate of these is in the neighbourhood of 100 sailings last year. Nor do these figures bring into account the delays suffered in Australian ports in regard to homeward berth loading, which required no less than 320 sailings last year.

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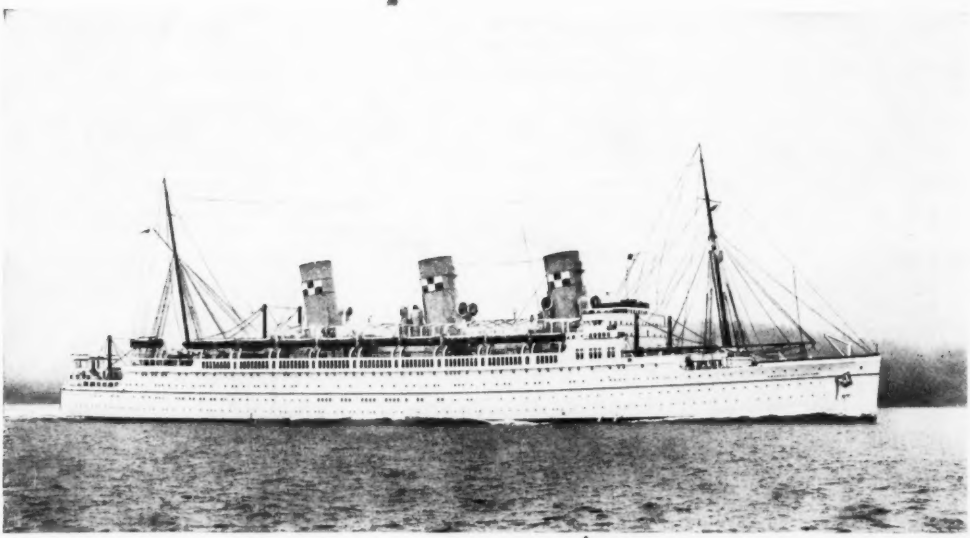

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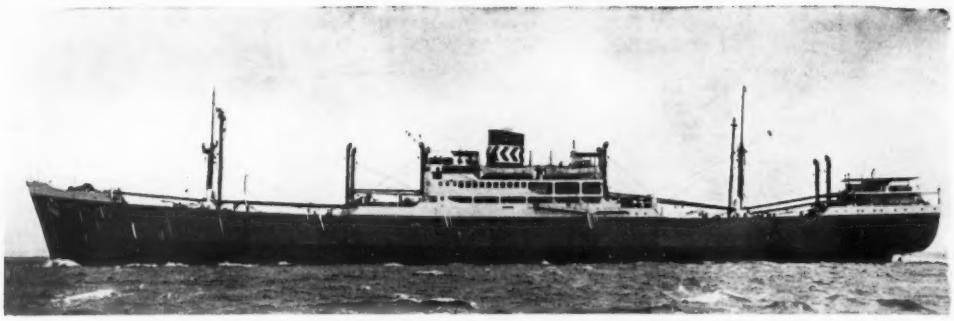

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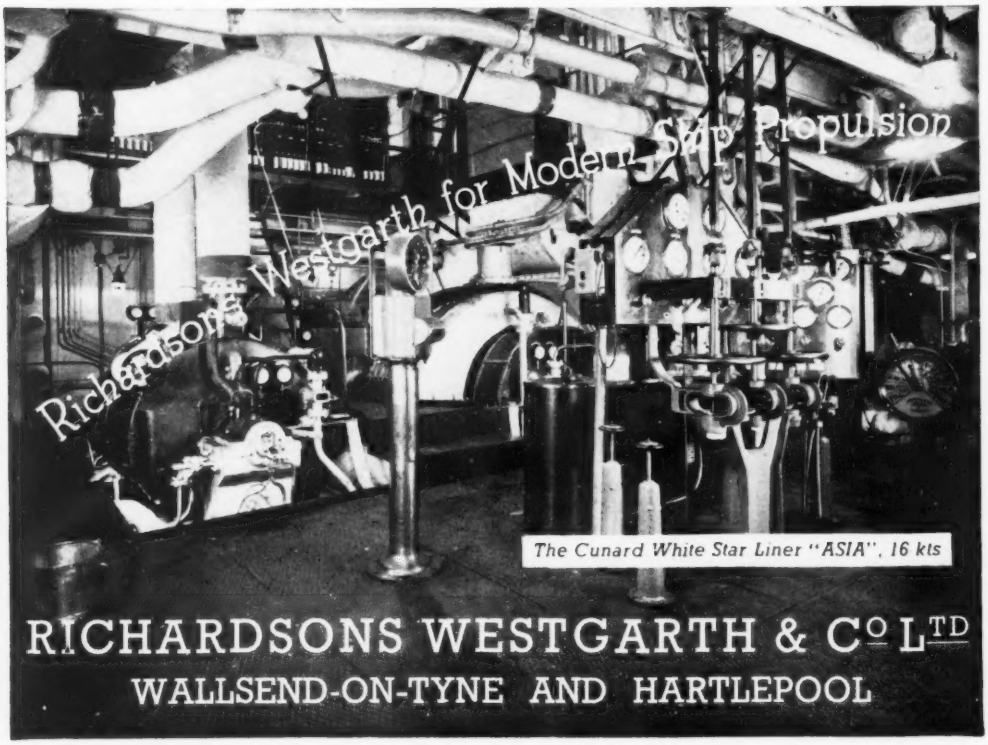
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expenditure coupled with excessive taxation have been maintained to hamper commerce and industry. They have in great measure been responsible for wastage of ships' carrying power, deficiency in overseas supplies and the maintenance of prices and the cost of production. The nation remains without sufficient realisation that its prosperity depends on work, and that the utmost return it can receive for that work is and must be limited by the purchasing power of consumers here and abroad. It is the ability of the buyer to pay that in the end imposes limits on prices, wages and freights. It is upon success in finding willing buyers overseas for our exports that even our ability to secure our essential food supplies depends.

Comité Maritime International

The Association has taken part during the year in preparatory meetings for the 1951 Conference of the Comité Maritime which is to be held at Naples in September next. The main item on the agenda will be a draft Convention dealing with arrest of ships, which an international Commission has been preparing. It will not be easy to secure uniformity of law in this matter, although it would undoubtedly be of advantage to the shipping and trading interests alike if the circumstances in which a ship could be arrested were defined with the same degree of international uniformity as now attaches, through the Hague Rules Convention, to duties and obligations arising under Bills of Lading. The present lack of uniformity in the law of arrest introduces considerations which have no bearing on the merits of a particular claim against a ship, but which turn on procedural advantage as between one jurisdiction and another. It is by no means abnormal that a British ship may be the subject of proceedings by a British claimant in a foreign country because there is a right of arrest in that country and not in England, and it is thought that exercise of that right may make the defendant more receptive to a quick settlement of a claim. Convenience of place of trial and of the presence of witnesses should not be subordinated to considerations of this kind. The difficulty lies, however, in the present wide divergence between the English and Continental systems and the impossibility of reconciling them unless one or other system is substantially changed. The Association raises no objection to an alteration in English law, so that not merely the ship concerned but any other ship belonging to the same owner can be arrested in respect of a claim to which the right of arrest applies. There is some force, too, in the contention that shiprepairers might be given better rights than those that present English law gives them. The Association would, however, consider acceptance of the Continental system too high a price to pay for international uniformity, and unless the Continental countries are prepared to compromise by way of limitation of some of their present wide powers of arrest, the prospect of agreement within the Comité of a useful Convention seem remote.

Through Bills of Lading

It is feared that, at the Naples Conference, the Association will once more be invited to waste time and trouble over a Convention in connection with through bills of lading, which has made its appearance at nearly every one of these Conferences for years past. It had been hoped that this project had been given its quietus at the Amsterdam Conference in 1949 when the British and American delegations joined in reiterating that neither on the side of ship or cargo was there a demand for it. The Amsterdam Conference, however, remitted it to another international Commission for further study, but with the suggestion that evidence be sought from the commercial interests concerned as to whether a Convention relating to documents of through carriage would be practicable and useful. So far as the Association knows, the answer to that question by the interests concerned in the country would be in the negative, but no attempt appears yet to have been made by the International Commission to obtain the views of those interests on that question. There is no question but that the project tabled at Amsterdam in the form of a draft voluntary Convention would be impracticable in application and as such it should be dropped. Such appears certainly to be the British view. If, however, there are Continental interests who think it is deserving of further exploration, then at least they should be confined to one international field for the purpose.

Negotiations have been concluded between the British Liner Committee and the Ministry of Transport for revision of the two indemnities relating to dangerous goods which came into existence during the war. The first of these indemnities related to the shipowner in his capacity of carrier of such goods; the second dealt with his capacity as stevedore, wharfinger, etc., concerned to handle such goods in ports of this country prior to loading and after discharge from the carrying ship. When general requisition ended in 1946, these indemnities were extended for the time being, but with a view to later revision as appropriate to peacetime circumstances. In the result of the negotiations, a revised form of indemnity for carriers came into operation on January 1, 1951. The stevedores' indemnity is still under discussion, mainly because interests other than those of shipowners are involved, and in the meantime the war indemnity continues to apply as necessary.

Sale of Ships Abroad

The Association remains dissatisfied with the modified maintenance of the wartime control on the sale of ships abroad which still persists. In the summer of 1950 certain modifications were announced. These eliminated from the the sales in respect of which Government permission was required, ships of 15 years of age and upwards except, in the case of those of certain special type or speed. For the sale abroad of any ship under that age, permission has still to be sought. The further latitude permitted in the sale of the older ships abroad does not, however, extend to sales of ships to be broken up for scrap. In these cases, the control continues to be exercised so as to compel owners to sell in this country at prices which are consistently below world prices. The use of the powers of the Transfer Restriction Act in this way is in the Association's view unjustified and out of accord with the intention and purpose of the Act. Its continued application, and departmental refusal of liberty to sell which has accompanied its continuation have unquestionably hampered the modernisation of the British Merchant Navy by compelling the retention of units which would have been better sold, so that the resulting money might be used for new building. Owners, generally speaking, do not sell their ships unless they have become unsuitable for their trades. A Government department is not a fit judge of considerations of that kind, which the individual owner should be left to judge for himself. The argument is unjustified that selling ships to foreigners will bring into existence foreign competition that would not otherwise arise. There is no evidence that foreign competitors, if unable to buy tonnage from British sources, will go without and in any event the argument is rendered absurd when foreigners are at the same time given every encouragement to build new ships in this country and thus provide themselves with better and more competitive units.

Tonnage Measurement Committee

The Institution of Naval Architects informed the General Council that they had set up a Tonnage Measurement Committee and asked the Council to nominate two representatives. Subsequently, certain recommendations were made by the Committee and considered by the General Council, who advised the Institution that the General Council was fully in agreement with their endeavours to obtain a modification of the existing Ministry of Transport requirements in regard to ships whose tonnage of the propelling power space was 13 per cent or less of the gross tonnage of the ship, and was ready to join in discussions with the Ministry, to consider how best effect could be given to that proposal. The General Council agreed that the immediate objective should be to secure acceptance of the proposal in principle, recognising that the exact extent of the modification would be a matter for negotiation.

Coastal and Short-Sea Shipping

The main event of the year in the domestic sphere of the coastwise section was the agreed termination of the freight equalisation scheme. The coasting lines entered in the Association welcomed the opportunity which the increase in railway rates last year gave them of telling the Ministry that the scheme could be ended. In so doing, however, they have taken a definite risk to themselves, because railway rates, particularly in trades where competition with coastwise carriage is mainly to be found, are by no means yet on an economic basis of covering expenditure by revenue. The coasting lines must cover the one by the other if they are to be able to maintain their services to the present extent or at all. Their costs of operation have not, as they might have hoped five years after the end of the war, reached their peak. They are rising continually and in circumstances outside the control of the lines. Examples of increases that have come about in the course of the last twelve months are to be found in the cost of bunker fuel, the cost of loading and discharging consequent on increased pay to shore labour, the cost of crews' wages and of repairs, both similarly consequent upon increases in pay. There are limits within which increases such as these can be passed on to the traffic carried, because the bulk of that traffic can readily be diverted to rail or road according to which, at any given time, as the cheapest form of transport.

THE I.N.A. SPRING MEETINGS

NEW NAVAL WORK : VISCOUNT RUNCIMAN ELECTED PRESIDENT

AT THE annual general meeting of the Institution of Naval Architects, which opened the spring meeting on board the *Wellington*, headquarters ship of the Honourable Company of Master Mariners, Viscount Runciman, who is vice-president of the Chamber of Shipping, was unanimously elected president of the Institution in succession to Admiral of the Fleet Viscount Cunningham. The result of the ballot for new members of Council were as follows:—

Vice-president: Professor A. M. Robb. *Members of Council*: Messrs. F. C. Cocks, J. F. C. Conn, T. A. Crowe, J. Ramsay Gebbie, J. M. Murray, H. S. Pengelly, Professor A. J. Sims, Professor E. V. Telfer and Sir William Wallace. *Associate Members of Council*: Sir Lawrence Edwards, Mr. G. J. Innes and Mr. W. C. S. Wigley.

Viscount Cunningham, referring to the new naval construction programme, the first in which warships had been ordered in large numbers since the war, said that the choice of frigates and minesweepers emphasised the importance of anti-submarine measures and the task of keeping the sea lanes open for merchant shipping in time of war. Work on warships–which were already under construction would be hastened and, similarly, in the engineering and electrical industries the supply of equipment for naval vessels now had priority over all work for the home market and equal priority with that for hard-currency export. During the past year many ships had been refitted, modernised or converted, and much of this work had been done in private shipbuilding and repair yards. He expressed pleasure at the Admiralty's decision to convert the cruiser *Cumberland*, which was to be fitted with a Denny-Brown stabiliser, into a special trial ship for carrying out sea trials on new naval equipment.

Tonnage Measurement

Referring to the work of the committee which had been set up to review proposals to amend the tonnage measurement regulations, Viscount Cunningham said that it was to be congratulated on having achieved unanimity of opinion from all technical interests concerned in that part of the regulations dealing with the propelling power allowance. It had also obtained the valued approval of the General Council of British Shipping. The committee was now working on the application of the most favourable proposition to various types of ship, and so far about 400 ships had been examined. Viscount Cunningham also referred to this question at the annual dinner of the Institution, saying that although it was proposed that the revision of tonnage measurement rules to an international standard should be considered by the Intergovernmental Maritime Consultative Organisation, when it was set up, no approach to the Institution had been made for its expert views. Replying to this point later in the evening, Sir Gilmour Jenkins, Permanent Secretary to the Ministry of Transport, assured the Institution that the views of all concerned would be sought by the Ministry before the question was dealt with by I.M.C.O.

The health of the Institution was proposed by the French Ambassador, who referred to British naval tradition and friendly rivalry with France, and particularly mentioned the high regard in which Viscount Cunningham was held by the French nation. In his reply, Viscount Cunningham spoke strongly of the need for a new attitude on the part of the men who were responsible for building ships, the workmen in the shipyards and factories. It was of great importance, he said, that our workpeople should be shown how their own, as well as the national, interests were being jeopardised by their perpetual insistence on easier conditions. "The theory that men will work more cheerfully for the State than for the private employer has surely been exploded." He strongly deplored the condition of the Royal Corps of Naval Constructors, who last year had been able to attract only three entrants from the Royal Dockyards, and none from private shipyards or the Universities.

Referring to the importance of merchant ships in time of war, he said that speed was essential. There was also the possibility that ships would be required to load and unload in open seaways, and means to this end deserved the attention of naval architects and harbour authorities.

The I.N.A. Papers

SPRING MEETINGS OF THE INSTITUTION OF NAVAL ARCHITECTS

FIVE PAPERS were read before the Spring Meetings of the Institution of Naval Architects. The subjects dealt with were resistance and propulsion (including one dealing with the principles of sailing), ship safety and stability. The first paper, given by Sir Amos Ayre, was entitled "Some Observations concerning Resistance and Propulsion" and performed a most useful function in clearing the air as regards relating the results of tank tests to the powering of full-scale ships. Undoubtedly some confusion has arisen, particularly since the acceptance of the effect of laminar flow in model tank results, though the author thought it might be possible that dependable conclusions regarding laminar flow had not yet been reached. Reference was made to the frustration which sometimes arises in the mind of the naval architect and ship designer when trying to reconcile the results of the various tanks, as the conditions in which the model was run varied, while not all tanks used trip wires. A similar unsatisfactory state existed in making allowances for appendages, in some cases there being no reference to the allowance which should be provided even when the model had been run in the naked condition. The adopted length dimension had such variation throughout the world tanks that some data was not comparable. The author recommended that a generally accepted speed position should be adopted for the comparison of one model with another, and said that the Alexander formula was of value up to a speed-length ratio of unity.

The relationship of block and midship area coefficients also called for examination, and Sir Amos mentioned that as a result of some work on resistance during the last war, the block coefficient was found to be more dependable as an index of form for these vessels than the prismatic coefficient. There seemed much to be said for the American practice of changing the line of the stem to the perpendicular below the waterline, while the modern practice of a very largely rounded forefoot might be questioned. The author thought that for speeds below that to which the Alexander formula applied, the bulbous bow was of no advantage. Other aspects of resistance and propulsion discussed included the location of the propeller, a subject which had not received the attention it deserved. Some gain might be had from increasing the clearance between the forward side of the propeller and the screw aperture. The relationship of the propeller diameter to the breadth and hull form of the ship was also important and a table giving propeller diameters as a factor of the breadth for various block coefficients was included in the paper. The author questioned the value of reducing the pitch of propellers towards the blade root and made a plea for the variation of pitch being given throughout the blade in all published work. Sir Amos said that much could be learnt from full scale trials in good conditions, particularly now that the e.h.p. could be deduced using Emerson's formula for the quasi-propulsive coefficient. The term quasi-propulsive coefficient itself might now be

dropped and "propulsive coefficient" taken to mean the relation between e.h.p. and d.h.p.

In a paper entitled "The Safety of Small Ships," Mr. H. E. Skinner drew attention to the fact that the incidence of losses in small ships was out of proportion compared with large ships. The object of this paper was to redirect thought on the subject of small mercantile ships and to test opinion as to whether or not the 1930 Loadline Convention work of increasing freeboards in small flush-deck ships and those with short erections need be extended and could be extended economically. A small ship was defined as of less than 400 ft. in length and generally in the region of 200 ft. long. Nearly 75 per cent of world shipping was comprised of vessels 400 ft. long and under, and about three-quarters of this total was in the region of 200 ft. and below; therefore the majority of cargo ships afloat fell within this survey.

Safety of Small Ships

The paper made it clear that small ships, irrespective of age, suffer the heaviest casualties among those abandoned, foundered, and missing because they have smaller resistance to the stress of weather, indirectly attributable to their high centres of gravity, coupled with small freeboard. By contrast it was to be expected, and indeed was confirmed, that ships with high freeboard such as passenger ships, shelter-deckers and ships generally in the ballast condition did better on account of their relatively large reserve of dynamical stability and their being able to heel through a large angle before immersing any opening. It has been found that range is a good criterion of stability which can be reasonably accurately calculated in the design stage by means of a formula. The relatively high losses among ships carrying heavy bulk cargoes may be in a great measure attributable to the deep draughts with which these full-scantling vessels are laden, whereas the light bulk cargoes carried in shelter-deck types with ample freeboard understandably gave a smaller rate of loss. Tankers carrying bulk oil cargoes showed up well, despite a low freeboard, probably because the centres of gravity are low. They had no large openings and there were open rails a large part of their length. It was thought that the present fashion of fitting plate bulwarks to the wells of small ships was on the whole disadvantageous, and in view of recent improvements in the protection of hatches a return to open rails would be recommended.

If it were accepted that the provision of freeboards appropriate to stability is desirable, it would result in draughts rather akin to those assigned for complete superstructure vessels. On such draughts it was possible on the number of bulkheads recommended by Lloyd's Register if these were made watertight, to give small ships unity subdivisions, which would greatly enhance their chances of survival in collision or in time of war.

In his paper "Further Ship Resistance Similarity," Professor A. V. Telfer made an interesting contribution to the experimental study of frictional resistance, the intention being to show that much of the experiment data of the past, when duly sifted and scrutinised, was still capable of yielding new lessons of importance. The paper was concerned with the extrapolation problem in obtaining ship specific resistance at standard viscosity from available data at high corresponding viscosities. Some criticism was made of the Froude, Kempf and Schoenherr formulae. The paper was prepared prior to the 1951 International Conference of Ship Tank Superintendents to be held in Washington in September next, as one of the principal items on the agenda of this conference is the possible adoption of a uniform means of transferring model results to the full-size ship, independent of the size of the model. Such a step was probably to be known as the departure from Froude; and while some of the Froudian edifice awaited demolition, there could be no doubt the Froudian foundations in frictional resistance were stronger than ever. The paper showed that a lot of the basic Froude methods were capable of better understanding and because of this they were capable of rational development. A correct system of extrapolation must first provide a means of correctly assessing the turbulent frictional resistance of any size of model in present practical use; independent of the size of model it must then produce the same positive specific residuary resistance at Froude corresponding speeds; it must respect Reynolds law; and the system should admit automatically of the correct interpolation of model geosim data.

High-Speed Sailing

In his paper "High-Speed Sailing," Mr. H. M. Barkle dealt with the problems entailed in building up a theory of sailing in a much more general manner than previously attempted. The graphical method of solution which had been chosen was particularly apposite to the consideration of high-speed sailing, and in this paper the author had considered the speed range for speed length ratios over 2.0, with remarkable results. The sail area necessary to give speeds of the order of 30 to 40 knots in winds of 20 to 30 knots was only about 400 sq. ft. per ton, but the required stability was far beyond the limits of a single hull. The author put forward a case for a combination of hulls and gave sketches illustrating a "triscaph," or three-hulled high-speed sailing vessel. While some vessels of this new type might be suitable only for record breaking, there was little doubt that others gave promise for use as fast cruisers. In order to reach the condition of full planing in wind speeds of the order of 15-20 knots a vessel must carry a sail area of the order of 400 sq. ft. per ton. Once planing was initiated the further increase of resistance with speed was so low as to permit speeds of 40 knots or more, provided that the stability was such as to meet a thrust on the sails about equal to the vessel's own weight. Such sail area and stability may be combined in several forms. The sail areas of these larger vessels could hardly exceed some 200 sq. ft. per ton, but it is believed that this figure could be obtained with a structure of adequate strength. Furthermore, if this were true, there would be no theoretical limit to the size, for the weight of a structure such as that of an aircraft varies more nearly with the square than the cube of the linear dimensions. The smaller, faster class of craft, on the other hand, would almost certainly find its own limit at under 2 tons, probably nearer 1 ton. Even so the cost of building individual prototypes would not be low, though quantity production of a successful model might well bring it within the reach of enough potential purchasers to justify it economically. Support might be found even now for the introduction of a new class of unrestricted racing for any waterborne craft propelled by wind. This would give an opportunity to designers to exercise their talents in complete freedom.

Hull Forms and Stability

The paper entitled "Influence of Ship Form on Transverse Stability," given by Professor C. W. Prohaska, added to the information provided by this author in a paper on residuary stability before the I.N.A. in 1947. The paper read at the recent Spring Meetings gave the results of a more thorough analysis of influence of ship form on stability curves. For a series of ship forms, comprising 42 forms having fullness coefficients selected to cover at least the merchant-ship field, stability calculations were carried out. The results were presented in non-dimensional form as C_{BS}-curves. An analysis of the C_{BS} variations due to change in ship form has been attempted, and broad conclusions have been drawn. The results have been compared to those which could be derived from the author's earlier work in this field. A new method for rapid calculation of stability curves has been set forth. Of nature it is approximate, but the degree of approximation is shown to be at least comparable to that obtained by the "exact" methods. It presents the special advantage that the stability curves obtained are more easily verified by comparison with those derived for other forms, as by the new method the influence of each of the different form parameters used is clearly detected. In judging an approximate method like the one proposed, it must be borne in mind that although most of the methods ordinarily used could be considered as theoretically exact, were a sufficiently high number of stations, waterlines and inclinations, and a rather large scale used, this rarely was the case. In many cases, therefore, as pointed out in the author's earlier paper, the uncertainties were fairly high.

Dock and Harbour Authorities' Association

At the annual meeting of the Dock & Harbour Authorities' Association today, the name of Sir John Anderson, chairman of the Port of London Authority, is being put forward as president for the ensuing year. Col. J. G. B. Beazley (Liverpool), the Duke of Buccleuch (Granton), Alderman A. W. S. Burgess (Bristol), Mr. B. Eliot Common (Tyne) and Sir John Irvin (Aberdeen) are proposed as vice-presidents. The annual report refers to the proposed scheme for the River Tees and Hartlepools put forward by the Docks & Inland Waterways Executive. Having regard to the opposition which the scheme has aroused among most of the bodies interested in port facilities in the area, and to the wide support for a scheme which would set up a local port authority with autonomous powers, it is hoped that further consideration will be given to the strong consensus of opinion before the British Transport Commission is finally committed. If the scheme is accepted by the Minister, the Committee feels strongly that it should be submitted to a public local inquiry at which the Commission would be required to show cause why the scheme should be made, having regard to the paramount considerations of increased efficiency and economy.

ROUND THE SHIPYARDS

Work in Progress on the North-East Coast

By THE SHIPPING WORLD'S Own Correspondent

A YEAR ago, North-East Coast shipbuilders were seriously disturbed about the lack of continuity of orders for new tonnage, and the prospects of several yards maintaining full employment beyond 1951 were anything but bright. That situation has completely altered, and a continuous flow of orders now means that firms are in the happy position of having sufficient work in hand to keep their staffs fully employed until 1953 and in some yards until 1954. This year has been marked by a phenomenal flow of contracts, and to date 56 vessels, totalling 741,390 tons d.w., have been ordered in this area.

One point of great interest is the resumption on a larger scale of the placing of orders for cargo ships and colliers, and of the 56 vessels ordered 27 come under these two classifications. One point is the lack of new tonnage orders for export; only six of the ships so far ordered are for overseas owners. With so much construction in hand and yet to be started, it is hoped that the rearmament programme now getting under way will not mean that shipbuilders will have to suffer a cut in supplies of steel. The Government should regard the shipbuilding industry as one of vital national importance, which means a high priority position in any question of steel allocation.

As was expected, North-East Coast yards figured in the recent new building programme of the British Tanker Co., Ltd., Tyne firms securing orders for one tanker of 32,000 tons d.w., and two tankers each of 16,000 tons d.w. On the Wear four 16,000-tons d.w. ships will be built, with the Tees area building one vessel, also of 16,000 tons d.w. The announcement that Swan, Hunter & Wigham Richardson, Ltd., Wallsend-on-Tyne, had gained the contract for the new mail boat for the Bergen Steamship Company against home and foreign competition gave much local satisfaction. The new liner is expected to go into the Tyne-Bergen service in about two years, and will have accommodation for first-class passengers and tourists.

Two Passenger Liners

The first of the two notable passenger liners that have been under construction in Tyne yards has now left the river; this is the French liner *Provence*, of 16,000 tons gross, constructed by Swan, Hunter & Wigham Richardson, Ltd. The *Provence* is the biggest ship ever built at the Walker yard. The other liner, building by Vickers-Armstrongs, Ltd., Walker-on-Tyne, is the 14,500-tons gross cruising liner *Ocean Monarch* launched last July for Furness, Withy & Co., Ltd., and expected to leave the Tyne on March 23 for the Clyde. Trials will be run on the Arran Mile, and the liner is due in London on April 9 and will later operate from New York on the Bermuda and Nassau service.

The only other Tyne ship to be delivered during March is the 18,000-tons gross Norwegian tanker *Credo*, building by Vickers-Armstrongs, Ltd. The Tyne delivery output for the first quarter of this year will amount to five ships totalling 69,085 tons gross, compared with six vessels of 57,060 tons gross for the corresponding period of 1950. There are now six ships fitting out at Tyne yards, two liners and four tankers. During March five Wear-built ships will complete fitting out. William Pickersgill will hand over the 5,600-tons gross French cargo ship *Capitaine Louis Malbert*, and the 2,700-tons gross collier *Capt. J. M. Donaldson* for the British Electricity Authority. Another collier for the same Authority due to be handed over this month is the 1,720-tons gross *Battersea*, from the yard of S. P. Austin & Son, Ltd., while the 8,000-tons gross cargo ship *Astronomer* for T. & J. Harrison is due to be commissioned by William Doxford & Sons, Ltd. The fifth ship will be the 6,300-tons gross *British Rover*, built by J. L. Thompson & Sons, Ltd.

The first launch from the replanned building berths at the yard of J. L. Thompson & Sons, Ltd., has taken place. Originally there were four berths at the yard, but two have been scrapped and two re-aligned to allow the construction of bigger ships. The initial launch was that of the 6,300-tons gross *British Warrior*, the third of an order for three similar tankers received from the British Tanker Company.

There has been an alteration in the plans for the new dry dock of T. W. Greenwell & Co., Ltd., and this will permit tankers of 32,000 tons d.w. to use the dock, as against the originally planned tonnage of 31,000 tons d.w. The final dimensions of the new dock will be: extreme length, 675 ft.; clear width at entrance, 87 ft. 2 in.; draught over cill and blocks at H.W.O.S.T., 26 ft. Yet another firm to embark on yard improvements and modernisation schemes is R. & W. Hawthorn, Leslie & Co., Ltd., Hebburn-on-Tyne, where it is proposed to increase the area of the present fabrication shed. The fitting shop will be absorbed into the new fabrication shed layout, and a new fitting shop built on the site of the old forge.

All the Tyne shipbuilding and repairing yards, with the exception of Vickers-Armstrongs, Ltd., and Shields Engineering & Dry Dock Co., Ltd., have decided to take a fixed week instead of the previous practice of staggered holidays. The week chosen is that starting on Saturday July 26, which will take in August Bank Holiday. This is the same week as taken by Wear yards.

THE NAVAL BUILDING PROGRAMME

Orders for Small Yards

THE Naval Estimates list orders placed recently for four frigates and 41 minesweepers. Two of the frigates are being built by Portsmouth and Devonport Dockyards respectively, with machinery supplied by Vickers-Armstrongs, Ltd., Barrow. Vickers-Armstrongs are also to supply the machinery for a third frigate, the builders of which have not yet been chosen, and the fourth is to be built and engined by Cammell Laird & Co., Ltd. Orders have so far been placed for 17 frigates, but as work on the remainder has not yet begun they are not included in the Estimates.

Of the minesweepers, six are described as auxiliary minesweepers, and as they are listed before the others they are presumably of larger size. Three are being built by John I. Thornycroft & Co., Ltd., with machinery by The English Electric Co., Ltd. (1), and Chatham Dockyard (2), and the other three by J. Samuel White & Co., Ltd., with machinery by Davey, Paxman & Co., Ltd. The remainder are divided into coastal minesweepers (17) and inshore minesweepers (18). These are two of the new classifications of minesweepers adopted recently by the Admiralty. The machinery for the whole of the former group is being supplied by Mirrlees, Bickerton & Day, Ltd., and for the whole of the latter group by Davey, Paxman & Co., Ltd.

The builders of the coastal minesweepers are: John I. Thornycroft & Co., Ltd., Woolston (3); Camper & Nicholsons, Ltd., Southampton (2); Goole Shipbuilding & Engineering Co., Ltd., Goole (2); Whites Shipyard (Southampton), Ltd., Itchen (2); J. S. Doig (Grimsby), Ltd., Grimsby (2); Richards Ironworks, Ltd., Lowestoft (2); Cook, Welton & Gemmell, Ltd., Beverley (2); and Fleetlands Shipyard, Ltd., Gosport (2). The inshore minesweepers are being built by: J. Samuel White & Co., Ltd., Cowes (1); Camper & Nicholsons, Ltd., Gosport (2); Vosper, Ltd., Portsmouth (1); Philip & Son, Ltd., Dartmouth (1); Brooke Marine, Ltd., Lowestoft (3); J. Bolson & Sons, Ltd., Poole (2); Ailsa Shipbuilding Co., Ltd., Troon (2); Berthon Boat Co., Ltd., Lymington (1); Ardrossan Dockyard Co., Ltd., Ardrossan (1); Herd & McKenzie, Buckie (1); Jones (Buckie) Slip & Shipyard, Ltd., Buckie (1); Hugh McLean & Sons, Ltd., Renfrew (1); and Fairlie Yacht Slip Co., Ltd., Fairlie (1).

A TEAM of Yugoslav deep-sea divers has left for Israel to take part in the salvage of sunken ships near Haifa. They are working for Brodospas, the Yugoslav salvage organisation.

AN AGREEMENT has been reached between the British Iron and Steel Research Association and the Research and Development Division of the British Steel Founders' Association whereby the latter association becomes responsible for the cooperative research requirements of the steel foundry industry.

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OPERATING EXPERIENCE WITH A GAS TURBINE

RESULTS OF 1,100 HOURS' RUNNING WITH RUSTON & HORNSBY 750-kW UNIT

By G. B. R. FEILDEN, M.A., M.I.Mech.E.

IT is the purpose of this paper to concentrate on the practical aspects of operation on the basis of experience gained during the first twelve months of endurance running of the Ruston & Hornsby 750-kW gas turbine. This plant is the first prototype of a production industrial gas turbine to be tested in Great Britain (and was described in THE SHIPPING WORLD of September 21, 1949). The turbine first ran under its own power on June 23, 1949. Subsequently the alternator and speed governor were fitted and after a series of performance tests and combustion modifications had been carried out, a start was made on an endurance test, which was successfully completed on September 28, 1950, the total running time on the plant then being just over 1,000 hours.

Operating Experience

The overall performance of the turbine when operating with its heat exchanger was determined by testing the plant up to full power on a water brake. A fuel consumption of 0.59 lb. per b.h.p. was measured when the plant was operating at full power, the equivalent thermal efficiency being 23.4 per cent. This figure compares reasonably well with the design estimate of 24.0 per cent for these conditions. Owing to the provision of a heat exchanger and a free running output turbine, the efficiency of the plant is well maintained at part load and has been found to exceed 18 per cent at half power.

In the following sections detailed comments are given on the performance of the various components of the gas turbine, based on the experience obtained during the first 1,100 hours' running. The components have been arranged in the order in which the air passes through them in the course of the operating cycle.

(a) *Air Inlet Filter.*—A fabric filter of the Vokes "Kompak" type was fitted in a separate compartment adjacent to the engine room, and ducted to the atmosphere. While a dry fabric filter will remove from the inlet air all relatively large particles of dust, some blade fouling does nevertheless take place when this type of filtration is used. Notwithstanding the appreciable dirt deposits on the blading, only a relatively small fall in the efficiency of the compressor was measured, amounting to slightly more than 2 per cent at full power. In view of a number of pessimistic prophecies which have been made about the effect of fouling on the blading of axial flow compressors, particularly in small sizes similar to the present plant, this result is regarded as decidedly encouraging.

From the testing so far carried out it appears that with the present design of compressor, dirt builds up on the leading edges of the rotor blades to a certain magnitude, after which particles are thrown off by centrifugal force. The particles pass through the compressor without adhering to the blade profiles, which remain nearly clean, and it is reasonable to hope that some 5,000 hours, or about one year's running, may be achieved without the necessity of cleaning the compressor blading. This statement is made on the assumption that no leakage of lubricating oil takes place into the compressor. It has already been found that oil leakage may be cured quite effectively by pressurising the compressor front bearing oil seal.

Compressor and Heat Exchanger

(b) *Compressor.*—The thirteen-stage axial flow compressor in this gas turbine was designed to have 50 per cent reaction blading. For the initial tests, compressor blading in R.R.56 aluminium alloy was fitted. This material was chosen as rapid delivery combined with relatively low price could be obtained, and the profiles of the pressed blades were found to have a fair degree of accuracy. It was realised that the fatigue properties of this aluminium alloy were inadequate for long life, but the aluminium blades have fulfilled a useful function in our development programme, and withstood over 1,000 hours' running before fractures were found in two of the twelfth-stage rotor blades. Performance measurements on the compressor showed that it was giving an efficiency of 84.0 per cent at full power, compared with the design estimate of 82.5 per cent. As soon as this fact had been established, orders were placed for rotor and stator blades in stainless steel. These blades are now fitted to the plant, and are giving a very satisfactory performance.

(c) *Heat Exchanger.*—In the heat exchanger of this plant, 5,832 tubes in "Yorkalnic" aluminium bronze-nickel alloy, 5/16 in. o.d. by ¼ in. bore, are used. The tubes are arranged in nine bundles, each of which contains 648 tubes 12 ft. long. Securing the large number of small tubes into their headers presented a difficult problem, but after a series of tests, silver-brazing was adopted with "Easyflo" brazing material and flux. Inspection of the tube bundles on conclusion of the first 33 hours' running showed that the gas inlet, or hot end, appeared to be in excellent condition, though some deposition of gummy carbon had taken place at the cold end. This deposit was diagnosed as having been caused by partially burned lubricating oil which had leaked into the gas stream from the turbine lubricating system. After this leak had been rectified, the tube bundles were replaced in the heat exchanger casing without cleaning. Following the resumption of running, it was found that the gummy deposit was beginning to flake off. This finding is of particular interest, as it shows that a tubular heat exchanger, even when fitted with quite small tubes, may have some self-cleaning tendency.

Endurance Running

During endurance running of the set, a reduction in overall performance was noted, and the cause of this was not finally established until the plant was examined on completion of the endurance run. It was then found that serious corrosion had taken place adjacent to the header-plates at the hot end of the heat exchanger, and 26 tubes had broken right away from their header-plates. As a result of this failure, a considerable loss of high-pressure compressor air had been taking place, and it is surprising that the plant had continued to run as well as it did. Examination of the fractured tubes in the laboratories of the Yorkshire Copper Works showed that the cause of failure was corrosion from brazing flux residues which had not been removed during the pickling and washing operations, and had subsequently deliquesced (i.e., absorbed atmospheric moisture) while the plant was standing between tests. The question that immediately arose was why corrosion had taken place only at the hot ends of the tube bundles, as there was no reason to believe that the corrosive residues had been more effectively removed from the cold ends than from the hot ends of the bundles. Further examination showed, however, that any residues left on the cold ends of the tube bundles had been "insulated" from atmospheric air by the remains of the gummy oil deposits which were formed during the first 33 hours of running. It is concluded that these deposits sealed the brazing flux residues from contact with atmospheric moisture, and thus prevented the residues from deliquescing and becoming chemically active.

The tube bundles have now been repaired by cutting off the corroded tube ends, refitting the header assemblies, and securing the tubes in place by a very small roller expander. Apart from the difficulty with corrosion, the heat exchanger has given a good account of itself, and it is felt that this

Technical Data of the Ruston & Hornsby 750-kW Gas Turbine

General	
Length overall, including alternator	26 ft. 2½ in.
Length of compressor, turbine and reduction gearing	15 ft. 10 in.
Weight, including alternator and heat exchanger	21 tons 9 cwt.
Compressor	
Number of stages	13
Compression ratio	4 to 1
Compressor Turbine	
Number of stages	2
Speed	11,400 r.p.m.
Power Turbine	
Number of stages	2
Speed	6,000 r.p.m.
Performance	
Maximum output, with heat exchanger	1,070 b.h.p.
Thermal efficiency, full load, with heat exchanger	24 per cent.
Maximum output without heat exchanger	1,250 b.h.p.
Thermal efficiency, full load, without heat exchanger	17½ per cent.
Fuel consumption, full load	0.59 lb. per b.h.p.-hour
Fuel consumption, half load	0.77 lb. per b.h.p.-hour
Fuel	Gas oil

* Abstracts from a paper read before the Diesel Engine Users' Association on March 15, 1951, by Mr. G. B. R. Feilden, chief engineer, turbine department, Ruston & Hornsby, Ltd.

type of construction, though admittedly bulky, is one which may be expected to give long life and satisfactory recuperation in gas turbines.

(d) *Combustion System.*—As a result of trouble experienced in matching the twin combustion chambers on our prototype turbine, we have decided to fit a single combustion chamber to all future plants. Since 1946, when the present design was settled, much progress has been made in the design of combustion chambers for industrial gas turbines, and there is now no difficulty in designing a satisfactory single combustion chamber to handle the full air and fuel quantities of a gas turbine of 1,000 kW or even considerably higher output.

On completion of the endurance test, examination showed that there had been negligible loss of metal by oxidation, and that the sheet metal work was in good condition. Some slight buckling was observed in the hottest section of the flame tube wall, and some cracks had developed in the welds which secure the supporting bosses to the flame-tube walls. Nevertheless, the writer considers that these defects may be regarded as relatively unimportant, as they can easily be avoided by introducing additional mechanical flexibility into the design. Steps have also been taken further to reduce the flame-tube wall temperature, which has the effect of lessening thermal fatigue effects as well as reducing scaling and expansion difficulties.

Deposits on Blading

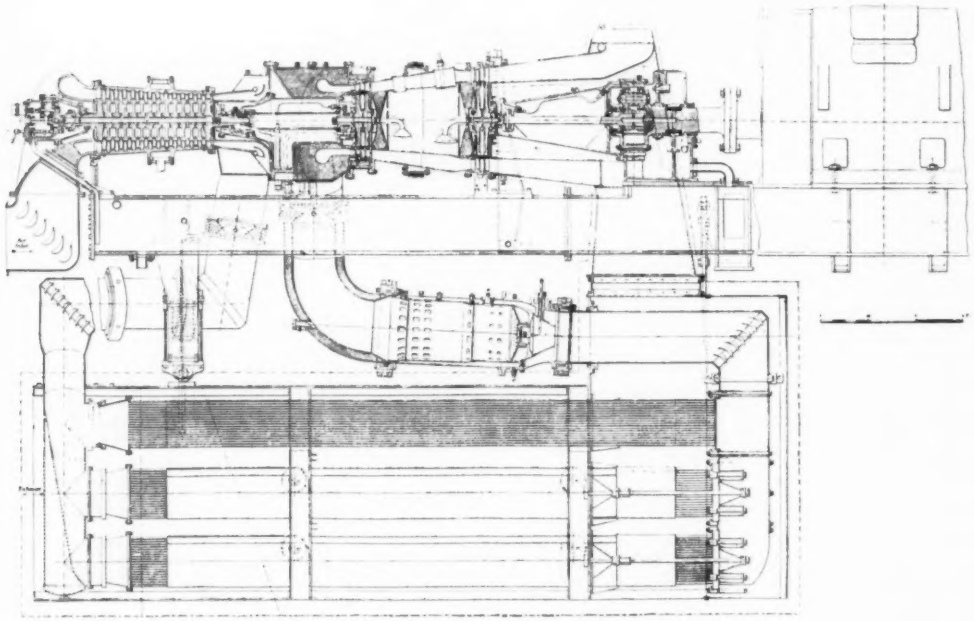
(e) *Turbines.*—The condition of the blading in both turbines was found to be most satisfactory on conclusion of 1,030 hours' running. An interesting phenomenon has been the appearance of white deposits, particularly on the power turbine blading, when the latter is stripped for inspection and exposed to the atmosphere. It appears that these deposits consist of sodium sulphate, and are formed as the anhydrous salt, small quantities of which are deposited on the blades, and take up water of crystallisation from the atmosphere on standing after testing. The position of deposits on the power turbine rotor blades shows a marked degree of symmetry between one blade and the next.

The author believes that efficient cooling of the rotor components is an essential feature for any industrial gas turbine which is called upon to start and stop at all frequently. Unless such a cooling system is provided, large thermal stresses occur in the rotor every time the plant is started; and if distortion is to be avoided, it will also be necessary to "bar" the rotor round for some period after the conclusion of running. With an effective cooling system on the other hand, the rate of heat flow into the rotor structure is substantially reduced, and in our experience a gas turbine may be started and stopped as rapidly and as frequently as desired without ill effect. Examination of the turbine blades and discs has failed to reveal any signs of distress resulting from the relatively rapid rise of gas temperature at starting, and this is regarded as a fairly conclusive demonstration of the merit of the type of cooling which has been adopted.

Similar thermal stress considerations apply to stator structures as to rotors. For this reason, provision was made in the design of the stator of the compressor-driving turbine to allow for rapid temperature rise of the portion of the stator exposed to the hot gases, while the temperature of the main rigid structural member, which is responsible for the circularity and concentricity of the stator with the rotor, is kept much lower than the gas temperature and is prevented from undergoing any rapid changes. As a result of the precautions taken in the design of the stator, the compressor turbine stator has remained round to within 0.005 in., measured in a radial direction, over the whole 1,100 hours' running of the plant.

Reduction Gear

(f) *Reduction Gear.*—One of the novel features of this gas turbine is the use of an epicyclic reduction gear having a ratio of 4:1 in place of the single- or double-helical gears currently used in steam turbine practice. The epicyclic gear was chosen on account of its compactness and because its input and output shafts are concentric, which favours an in-line arrangement of the complete power plant. Load is taken from the sunwheel (i.e., the driving gear) at three points on its circumference. Hence, for a given tooth loading, the diameters of the gears may be divided by a factor of three, as compared with a conventional helical gear. In practice, of course, other considerations such as the bearing loads on the plant pins enter the picture, but notwithstanding these factors, power for power, an epicyclic gear shows a marked reduction of size compared with conventional types. The design of the planetary system of the gear in this plant was undertaken by the Self-Changing Gear Company, Coventry, which also manufactured the complete gearbox.



Arrangement of the Ruston & Hornsby gas turbine

while the design of the casing and auxiliary drives, etc., was the responsibility of Ruston & Hornsby.

(g) *Bearings and Lubrication System.*—As will be seen from the sectional arrangement drawing, the compressor rotor is supported on plain bearings at its inlet and outlet ends. The compressor bearings were photographed on completion of 1,030 hours' running, and the top half shells of both the inlet and exit end bearings show no markings whatever. In fact, the original tool marks are intact. The bottom half shells show a slight "matting" effect, combined with burnishing at each end of the shell, but the wear of the white metal is under 0.0001 inch. The condition of the shaft journals is also very satisfactory, and in this case virtually no wear or scoring are discernible. For both compressor-driven and output turbines, copper-lead bearings are used. On conclusion of 1,030 hours' running the top half shell is unmarked, the original lead-tin electro-flashing being untouched. In the bottom half shell, the flashing has been locally removed in the loaded area, but no measurable wear of the shell or journal can be detected.

Thrust in both the gas generator and power turbine rotors is carried by Michell bearings, which are designed to operate with a pad bearing pressure of 500 lb./sq. in. when the plant is running at full power. Negligible wear has taken place either in the pads or on the shaft collars, and the condition of the bearings is entirely satisfactory.

In the present series of tests Vacuum D.T.E. Medium Special lubricating oil was used. The broad conclusion is that very little deterioration of the lubricating oil has taken place during the 1,100 hours' running of the turbine, and there appears to be no reason why the oil should not continue to give satisfactory service for a much longer period. In the author's view there is no reason why gas turbine lubricating oils should not have as long service lives as those in steam turbines, so long as precautions are taken to prevent the lubricating oil from being overheated by contact with uncooled turbine shafts or casings.

Conclusions

Throughout the testing of the Ruston 750-kW gas turbine, it has been noticeable that "outage" of the set has been due to relatively minor items rather than failures of major components. On only one occasion during the eighteen months since the plant was first run has the set been shut down owing to a defect in the heat exchanger, while there have been no occasions on which running has been abandoned due to a defect in the compressor or turbines. By far the most prolific source of lost running time has been the fuel atomisers, but with the introduction of the Shell fuel-cooled atomisers, trouble from this source has been completely cured. Next in order after fuel atomisers as causes of lost running time have been the combustion system proper and the reduction gear, though the latter has resulted in only a relatively small loss in possible running time.

As further endurance running on the plant is carried out, it is likely that different factors will require attention from those which gave trouble during the first 1,100 hours' running of the plant. It may, however, be said that as a result of this initial operating experience using distillate fuels, there is substantial evidence for believing that little trouble is to be expected from the two basicly new elements in the gas turbine—namely, the compressor and the high temperature turbines.

While there are a number of relatively specialised applications in which gas turbines can be operated on distillate or gaseous fuels, the large-scale utilisation of gas turbines in the future will, of course, depend on their ability to run on residual oil fuels and solid fuels. Work is proceeding on both these developments at the company's works, and in many other places, and encouraging progress is being obtained. It is the author's opinion that a gradual change-over to gas turbine power plant will take place in some sections of the industrial field during the next fifteen years. As technique improves and additional experience is obtained on the problems of combustion and ash-deposition, gas turbines will be found in increasing numbers in fields which have hitherto been the province of diesel engines or steam turbines, while we may ultimately expect gas turbine efficiencies to exceed those of present day engines when methods of blade-cooling have been fully developed.

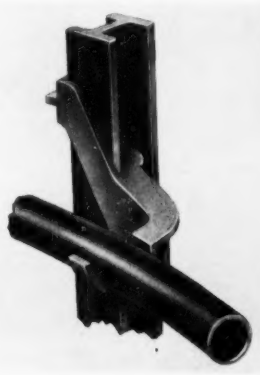
A VICTORY ship which normally has accommodation for 12 passengers carried 14,000 passengers on a three-day trip during the evacuation of Hungnam, the Korean port, last December. The vessel, the *Meredith Victory*, arrived in the port to evacuate civilians. Her master offered to take aboard as many civilians as could be crammed into the hull and superstructure of the vessel, and the ship sailed with 14,000 passengers. There were no deaths among the refugees.

RECENT TECHNICAL DEVELOPMENTS

Fuel Peak Pressure Indicator

A few months ago a new peak pressure indicator, designed for indicating engine cylinder pressures up to 1,500 lb. per sq. in., was introduced by Dobbie McInnes, Ltd., Broomloan Road, Glasgow, S.W.1, under Sulzer patents. The firm has now produced a further model for indicating maximum pressures up to 15,000 lb. per sq. in. which has a special use for measuring oil engine fuel injection pressures. It is of particular value in providing early warning of the choking of atomisers which, especially with high viscosity fuels now being used on a large scale, may produce undesirable fuel line pressures 100 per cent and more above normal. To reduce the cost of an outfit for a multi-cylinder engine and to avoid the need for acquiring one indicator for every cylinder, a simple automatic cock has been designed which is normally screwed to a T-piece in the fuel line. One cock is connected to each fuel line and one or two indicators only can be rapidly transferred from cock to cock.

In operation a highly finished plunger loaded by a calibrated spring rises under the influence of fuel pressure and lifts a conical nut off its seat. During the first cycle a clock spring returns the nut downwards to the seat, and the rotation of the nut is indicated by a graduated scale on a thimble which turns with it. During the second cycle the plunger, which has been locked in the "up" position by the nut, rises a little more and is again locked. This is repeated until the thimble stops rotating and the maximum pressure is indicated on the scale. The thimble is graduated up to 10,000 lb. per sq. in. by 100 lb. divisions, and will make another half-turn for 15,000 lb. The indicator can be readily affixed to the automatic cocks, which open automatically when the indicator is fitted.



The "Wynip" clip

New Support for Pipes and Pulleys

An unusual and useful type of clip which is designed to support pipes of all kinds, pulleys, platforms and other items, from girders, has been manufactured and introduced by Follsain-Wycliffe Foundries, Ltd., Lutterworth, near Rugby. This clip, marketed under the registered trade mark of "Wynip," is unusual in that it is attached to the girder merely by placing it on the girder and hammering home. No bolts are used. The "Wynip" is cast in one piece in Blackheart malleable iron and has no loose parts and has been tested officially to carry a load of one ton. It is claimed that it is impossible for the "Wynip" to slip, as any increased load up to one ton has the effect of causing the tapers on the clip to bite more firmly into the taper on the girder. Despite the rigidity of the clip when in position, it can be removed by a light blow under the hook once the load is removed. These clips are available in different sizes to fit standard girder sections.

A RESEARCH scholarship of the value of £400 per annum, tenable for two years, has been offered by the Aluminium Development Association to encourage and facilitate research in the application of light alloys to ship construction. The scholarship will be administered by a committee of the Institution of Naval Architects and it is hoped to make the award in September 1951.

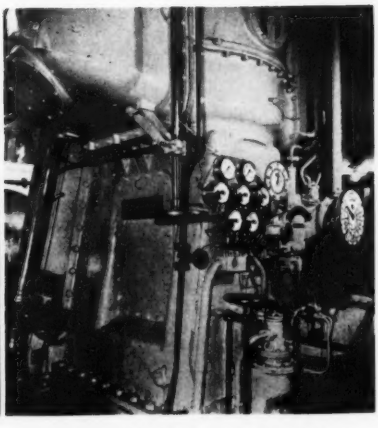
"FINNTRADER"

SPECIALLY DESIGNED
FOR NAVIGATION
IN HEAVY ICE

Right: **Smoking saloon**

Left: **View of captain's quarters**

View of boat deck



Manoeuvring platform of main engine

NEW CARGO SHIP FOR FINLAND

15½-KNOTS DUTCH-BUILT MOTORSHIP FOR TRANSATLANTIC SERVICE

THE cargo motorship *Finntrader*, 6,450 tons deadweight, which ran trials on January 30 last, has completed her first round voyage between Finland and the United States. She was built by N.V. Scheepswerf "De Hoop", at Lobith, Netherlands, for Merivienti O/Y, of Halsingfors, Finland. Her laden speed of 15½ knots is designed to enable her to operate a six-weekly service between Finland and the United States, and she has accommodation for 12 passengers in single-berth cabins.

The principal particulars of the *Finntrader* are as follows:—

Length overall	413 ft. 8½ in.
Length b.p.	377 ft. 3½ in.
Moulded breadth	54 ft. 5⅞ in.
Depth to main deck	25 ft. 4 in.
Depth to shelter deck	33 ft. 4½ in.
Deadweight	6,450 tons
Draught loaded on summer loadline	23 ft. 4¾ in.
Bale capacity	347,520 cu. ft.
Grain capacity	372,900 cu. ft.
Gross register	4,421 tons
Net register	2,189 tons
Total ballast capacity	790 tons
Total fuel capacity	726 tons
Total freshwater capacity	90 tons
Total lubricating oil capacity	48 tons
Loaded speed	15½ knots
Horsepower	5,000 b.h.p.
R.p.m.	128

The *Finntrader* has been built to Bureau Veritas class + 1.3/3.I.I.I. Finnish Ice Class IC. The ship's hull was designed after a series of tests in the Wageningen experimental tank, special attention being given to the shape of stem and stern for navigation in heavy ice. The hull, which is partly welded, is divided into seven compartments by six bulkheads, and the double bottom extends over the whole length of the ship between forepeak and shaft tunnel. The forepeak and after peak, together with four of the double-bottom tanks, are designed to carry 790 tons of water ballast; three double-bottom and two deep tanks carry 726 tons of fuel oil, while tanks 6 and 7 carry 90 tons of fresh water and 48 tons of lubricating oil respectively.

The vessel is designed as a shelterdecker, with two holds forward and two aft of the engine room. The holds and tweendecks are completely free of pillars, and provision has been made for the fitting of centre-line grain divisions. Special provision has been made for the carriage of motor cars, and large doors have been installed in all tweendeck transverse bulkheads. The size of No. 1 hatch is 33 ft. × 22 ft., No. 2 hatch 68 ft. × 22 ft., and Nos. 3 and 4 hatches 32 ft. × 22 ft. All shelterdeck hatches are 32 ft. × 22 ft. Each hatch is served by two derricks of 3 to 5 tons lifting capacity, served by Figee winches, and in addition two heavy-lift derricks are provided, one of 15 tons and the other of 25 tons capacity. Fire detecting and extinguishing equipment is provided in all holds, tweendecks and the engine room, with control from the wheelhouse. A loud-speaking installation is installed for communication between bridge, forecastle, poop, engine room and passenger quarters.

Accommodation is provided for 12 passengers in single-berth cabins, with intercommunicating doors provided. The dining room and smokeroom, the passengers' cabins and the captain's quarters on the boat deck, as well as entrance and stairway, have been attractively carried out according to the designs of Professor Aalto, of Helsingfors. All passengers' and officers' cabins are mechanically ventilated and fitted with electric heaters and running hot and cold water. The crew is quartered on the main deck and in the superstructure aft, all crew's cabins being electrically heated and ventilated, and all washplaces are supplied with running hot and cold water. Refrigerated storerooms, linen room, gyrocompass room, and engine room workshop are situated on the main deck amidships. Navigational equipment includes a gyrocompass and automatic pilot, wireless and radar, direction finder, two echo sounders and an electric log. Two lifeboats are provided on the boat deck as well as one motorboat on the poop deck.

The main machinery installation was supplied by Scheepsinstallatiebedrijf "Nederland", of Ijsselmonde. The main engine comprises a 9-cylinder Sulzer diesel type 9SD65, the cylinders having a bore of 660 mm. and a stroke of 1,020 mm. This engine has a continuous rating of 5,000 b.h.p. at 128 r.p.m. Three M.A.N. auxiliary diesel engines are provided, each of 200 b.h.p., coupled to generators with an output of 135 kW, as well as an emergency diesel-generator set of 35 b.h.p. producing 20 kW. Electrically-driven standby pumps are provided for all main engine services, such as salt water, circulating fresh water and lubricating oil pumps.

SHIPBUILDING IN EAST GERMANY

Shipyards as Soviet Repair Centres

Since 1945 East German shipbuilding capacity has been occupied almost exclusively for Soviet interests. The large shipyards in Stralsund, Warnemünde, Wismar, Wolgast, and above all the Soviet Neptun yards in Rostock, receive their directives exclusively from Soviet quarters. Soviet control officers are constantly supervising the progress of work minutely. The "five-year plan" envisages for the Soviet-occupied zone of Germany, as is known, the construction of 20 new freighters of between 1,500 and 6,000 tons gross. For this relatively moderate building programme, on the other hand, the number of yard workers is to be increased by a further 8,000 men and the shipyard capacity by at least one-third. Approximately 85 per cent of output today is exclusively serving Soviet concerns.

Repair work to Soviet vessels is at present proceeding under high pressure. The repair of large vessels of German origin is still in the bulk of the programme, though of late a changeover to the construction of minor units of war and the production of major ship components for yards in Soviet Russia have been observed. The former Hapag liner *Hamburg* (22,000 tons gross), sunk in 1945 off the island of Rügen and in the meantime refloated, is being reconditioned by the Warnemünde-Rostock combine. The repair of the *Hansa* (ex-*Albert Ballin*, 21,000 tons) is being carried out at the Warnow yard, Warnemünde. In addition, the former *Oceana* (9,000 tons), which was overhauled in the Warnemünde yard, is today wearing the Soviet flag under the name *Asia*. The former *Cordillera*, of the Hamburg-South American Line, was reconditioned in Wismar and has now been incorporated in the Soviet fleet as the *Equator*. Under the name of *Admiral Nachimow*, a further ship of about 16,000 tons been brought in for overhaul in the Warnemünde yard. Apart from this, the former Hapag vessels *Iberia* (now the Soviet *Podjoda*), *Patria* (the Soviet *Rossia*), *Sachsenwald* (present name unknown) as well as the former German Africa vessels *Wangoni* (now the Soviet *Chutotka*) and *Wadai* (Soviet *Gogol*) and other German overseas vessels are due for or have undergone a general overhaul in the yards of the German East Zone. The Soviet yards in Leningrad, Riga and Reval are at present occupied exclusively with warship construction.

THE SWEDISH Government has given Rederi A/B Clipper, Malmö, permission to acquire the cruising liner *Stella Polaris* from Det Bergenske Dampskibsselskap. The Swedish company has agreed to transfer a contract for a motor tanker of about 16,000 tons d.w. to be built at Kockums mek. Verkstad and due for delivery on October 1, 1952. The Norwegian company will transfer the *Stella Polaris* next autumn for a price of 4,500,000 kroner and will take over the obligation to pay Kockums 4,950,000 kroner.

THE U.S. Economic Cooperation Administration has allocated $1,500,000 (about £535,000) towards the reconstruction of the port of Rangoon. The money will be used to provide imported equipment, materials and supplies. The Burmese Government will use local counterpart funds to pay for materials and labour from within the country. Rangoon handles some 80 per cent of Burma's seaborne commerce. It now has only half its prewar capacity of 5,000,000 tons a year.

NEW CONTRACTS

Yards in Great Britain and Northern Ireland

Shipowners	No. of Ships	Type	Approximate Tonnages		Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
			Gross	Deadweight						
British & Burmese S.N. Co.	3	Cargo	—	10,000 (each)	—	12.5	Harland-B. & W. diesel	3,300	John G. Kincaid	Lithgows (2 vessels) and Wm. Denny & Bros.
Larrinaga S.S. Co.	2	Cargo	—	10,000 (each)	—	12	6-cyl. B. & W. diesel	3,300 (each)	Harland & Wolff, Belfast	Wm. Pickersgill
Markos P. Nomikos, Piraeus	1	Tanker	—	17,000	—	14	6-cyl. Doxford diesel	—	Shipbuilders	Scotts' S.B.
New Zealand Shipping Co.	2	Cargo	—	—	—	—	—	—	—	John Brown
British Oil Shipping Co.	1	Tanker	—	18,500	—	—	Diesel	—	Sulzer Bros., Winterthur	Blyth D.D.
Wm. France, Fenwick & Co.	2	Cargo	—	10,000 (each)	—	—	Doxford diesel	—	N.E. Marine	Wm. Pickersgill
London owners	1	Cargo	—	10,000	—	—	Reheat steam	—	N.E. Marine	Short Bros.
London owners	1	Cargo	—	10,000	—	—	Harland-B. & W. diesel	—	—	Short Bros.
London owners	1	Cargo	—	10,000	—	—	Sulzer diesel	—	—	Short Bros.
J. Marr & Son	1	Trawler	300	—	—	—	Diesel	—	—	Cochrane & Sons
Pan-Ore S.S. Co., Inc. New York	1	Bauxite ore carrier	—	8,000	425 b.p. × 60 × 29.5	12.5	Dble.-red. geared turbines	—	D. Rowan	Burntisland S.B.
Skibs A/S Karaibien, Oslo	1	Bauxite ore carrier	—	8,000	425 b.p. × 60 × 29.5	12.5	Dble.-red. geared turbines	—	D. Rowan	Burntisland S.B.

Commonwealth and Foreign Yards

Oivind Lorentzen, Oslo	2	Cargo	—	8,000 (each)	—	16.5	Diesel	—	—	Howaldtswerke, Kiel
Ove Skou, Copenhagen	1	Cargo	4,200	—	—	—	Diesel	—	—	Howaldtswerke, Kiel
T. Gotaas, New York	1	Tanker	11,000	16,500	—	14.5	Diesel	—	—	Bremer Vulkan Schiffbau und Masch., Vegesack
Forestale Lombardi Co., Milan	2	Cargo	—	1,200 (each)	—	—	Diesel	—	—	A.G. Weser, Seebeck, Bremerhaven
Van Leeuwen-Boomkamp, Amsterdam	1	Coaster	—	460	—	—	M.A.N. diesel	350	—	Scheeps. "De Waal," Zaltbommel
Dutch owners	5	Coasters	—	350 (each)	142.7 × 24.3 × 9.37	—	de Industrie diesel	200 (each)	—	D. en Joh. Boot Scheeps., Alphen a/d Rijn
Van Nievelt Goudriaan & Co.'s Stoomv. Maats., Rotterdam	2	Coasters	499 (each)	—	—	—	Diesel	—	—	Scheeps. en Mach. "De Merwede," Hardinxveld
Gebr. van Uden's Scheepv. en Argentuur Maats., Rotterdam	1	Coaster	—	950	—	—	Werkspoor diesel	1,000	—	Scheeps. Waterhuizen J. Pattje, Waterhuizen
Empresa Hondurena de Vapores, Puerto Cortez	2	Cargo	2,850 (each)	2,250 (each)	—	14.5	M.A.N. diesel	—	—	Bremer Vulkan Schiffbau und Masch., Vegesack
Hendrik Fisser A.G., Emden	1	Cargo	500	—	195.2 b.p. × 29.7 × 11.7	—	Diesel	800	—	Schiffbau-Gesellschaft Unterweser, Bremerhaven
A. G. Ems, Emden	1	Passenger	—	—	138.1 o.a. × 23 × 7.2 (draught)	12	—	520	—	Johs. Meyer, Papenburg-on-Ems
Kolner Reederei, Cologne	1	Cargo*	—	1,600	254.3 × 39.4 × 23	—	Diesel	1,600	—	Gutehoffnungshutte A.G., Walsum
Reederei Hugo Stinnes, Duisburg-Ruhrort	1	Tanker	700	—	192.8 × 29.5 × 14.1	—	—	—	—	Elsflether Werft, Elsfleth
	1	Rhine tanker	—	630	219.8 (long)	—	Diesel	500	—	
Einar Rasmussen, Kristiansand S.	1	Tanker	—	18,250	—	15.25	Diesel	—	—	Eriksbergs M.V., Gothenburg
A/S Borgestad, Porsgrunn	1	Tanker	—	17,500	—	14.5	Diesel	—	—	Gotaverken, Gothenburg
Enso-Gutzeit O.Y., Helsinki	2	Cargo and pass.	7,100 (each)	—	—	18	—	—	Scheepsinstallatiebedrijf Nederland, Ysselmonde	Scheeps. en Mach. "De Merwede," Hardinxveld; and J. Smit Czn., Alblasserdam (1 each)
Johansen Egelien A.S., Drammen	1	Coaster	130	—	93.5 × 22 × 10.35	—	Diesel	250	—	Pusnes M.V., Arendal
Salahun & Hacquard	1	Coaster	—	400	—	—	—	—	—	Scheeps. "De Waal," Zaltbommel
Cie. Generale d'Armements, Paris	1	Cargo (to be named *Rabot*)	—	1,420	—	—	—	—	—	Scheeps. en Mach. "De Biesbosch," Dordrecht
Union des Remorqueurs de l'Ocean, Paris	1	Deep-sea tug	—	—	—	—	—	1,200	—	Scheeps. en Mach. "De Biesbosch," Dordrecht
Union Industrielle et Maritime, Paris	1	Coaster	—	1,700	—	—	—	—	—	Scheeps. en Mach. "De Biesbosch," Dordrecht
Standard Francaise des Petroles, Paris	1	Asphalte carrier	—	2,550	—	—	—	—	—	Scheeps. Gebr. Van Der Werf, Deest
Armement Giannoni-Rastit, Marseilles	1	Coaster	—	800	—	—	—	—	—	Werf de Noord, Alblasserdam
Soc. Dunkerquoise de Remorquage & de Sauvetage, Dunkirk	1	Tug	—	—	—	—	—	1,000	—	A Vlaardingen yard

* An order for a cargo vessel of similar size was reported in THE SHIPPING WORLD of March 7, 1951, as having been placed by unknown owners with Gutehoffnungshutte A.G.

LAUNCHES

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages Gross	Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Mar. 8	British Rlys.	*Norfolk Ferry* (661)	Harwich-Zeebrugge train ferry	3,000	—	397.5 o.a. and 380 b.p. × 61.5 × 34.75	13	Tw.-scr. Sulzer diesel	—	—	John Brown
Mar. 8	British Electricity Authority	*W. H. J. Wood* (325)	Collier	3,370	4,600	320 × 46 × 22.33	10	Sin.-scr. tr.-exp. steam	1,275	N.E. Marine	Wm. Pickersgill
Mar. 9	Alexandra Towing Co.	*Formby* (1369)	Tug	230	—	99 b.p. × 26.5 × 13	—	Sin.-scr. tr.-exp. steam	1,000	Chas. D. Holmes	Cochrane & Sons
Mar. 9	Chr. Salvesen & Co.	*Southern Harper* and *Southern Hunter*	Whale catchers	434 (each)	—	—	—	—	—	—	Smith's Dock
Mar. 9	Calcutta Port Commissioners	*Torch* (1964)	Light vessel	285	—	—	—	—	—	—	J. Samuel White
Mar. 9	John Harker, Ltd.	*Westdale H.* (240)	Coastal tanker	220	—	—	—	Diesel	—	—	Sharpness Shipyard
Mar. 12	Calcutta Port Commissioners	*Nadia* (793)	Buoy lifting vessel	1,170	—	200 b.p. × 37 × 19.5	12	Tw.-scr. tr.-exp. steam	—	Shipbuilders	Wm. Simons

Commonwealth and Foreign Yards

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages Gross	Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Jan. 20	Rederiet Ocean A/S (J. Lauritzen), Copenhagen	*Nerma Dan* (1015)	Tanker	10,560	16,300	515 b.p. × 64 × 38.5	15	2-str. Sulzer diesel	6,300	—	Lindholmens Varv, Gothenburg
Jan. 23	P. Meyer, Oslo	*Havtor* (337)	Tanker	16,000	24,400	606 o.a. and 570 b.p. × 77 × 42.75	14	7-cyl. 2-str. M.A.N. diesel	7,000	Shipbuilders	Kockums M.V., Malmo
Jan. 23	Angfartygs A.B Tirfing, Gothenburg	*Kronoland* (404)	Cargo	5,226	9,000	420 b.p. × 58 × 37.5	14.25	6-cyl. 2-str. B. & W. diesel	—	Shipbuilders	Eriksbergs M.V., Gothenburg
Feb. 27	Rederi A/S Ruth, Oslo	*Ruth* (657)	Tanker	10,100	15,900	515.16 o.a. × 64 × 38.16	14.5	Sin.-scr., 8-cyl., 2-str. diesel	7,350	Shipbuilders	Gotaverken, Gothenburg

TRIAL TRIPS

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages Gross	Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p	Engine Builders	Shipbuilders
Mar. —	British Tanker Co.	*British Premier* (1032)	Tanker	8,700	12,250	463 × 61.5 × 34	—	Sin.-scr., 6-cyl., 4-str Harland-B. & W. diesel	—	John G. Kincaid	Lithgows
Mar. —	Union Industrielle et Maritime, Paris	*Capitaine Louis Malbert* (323)	Self-trimming collier	4,000	5,570	360 × 51.5 × 25.25	11	Sin.-scr. tr.-exp. steam	—	George Clark (1938)	Wm. Pickersgill
Mar. —	Dundee, Perth & London Shipping Co.	*London* (336)	Coastal cargo liner	706	875	201 b.p. × 36.25 × 21.08	12	Sin.-scr., 8-cyl., 2-str. diesel	1,280	British Polar Engines	Burntisland S.B.
Mar. —	Isle of Man S.P. Co.	*Mona's Isle* (1209)	Short-sea pass.	2,500	—	344.25 o.a. and 325 b.p. × 47 × 26	21	Tw.-scr., sin.-red. geared Parsons turbines	—	Shipbuilders	Cammell Laird
Mar. —	Olav Ringdal, Oslo	*Ringerd* (1413)	Tanker	8,200	12,000	487.5 o.a. and 460 b.p. × 59 × 34.83	—	Sin.-scr., 6-cyl., 4-str B. & W. diesel	—	Shipbuilders	Harland & Wolff, Belfast

Commonwealth and Foreign Yards

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages Gross	Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p	Engine Builders	Shipbuilders
—	Osaka Shosen Kaisha	*America Maru*	Cargo	—	9,900	439.58 × 61.66	13.5	Sulzer diesel	5,600	—	Central Japan Heavy Industries
—	S.A. de Gerance et d'Armement	*Cambraisien* (C.G.3308)	Cargo	2,605	3,700	346.42 b.p. × 54.16 × 29.2	—	Tw.-scr., 6-cyl., 4-str. geared M.A.N. diesels	6,360	—	Arsenal de Lorient
—	Cie. Maritime Belge	*Charlesville*	Cargo and pass.	10,950	9,460	504.2 o.a. × 64.25 × 36.5	16	Sin.-scr., 8-cyl., 2-str. B. & W. diesel	7,200	Shipbuilders	S. A. John Cockerill, Hoboken
—	Argo-Reederei Richard Adler & Co., Bremen	*Erpel*	Cargo	1,450	2,220	245.8 b.p. × 42	12	Steam	—	—	Bremer Vulkan Schiffbau & Masch., Vegesack
—	Dampfs.-gesellschaft "Neptun," Bremen	*Hercules*	Cargo	1,669	—	—	—	Diesel	—	—	A.G. Weser, Seebeck, Bremerhaven
—	Argentine Govt.	*Rio Tunuyan*	Pass. & cargo	10,500	17,000	510 × 65.66 × 33.2	18	Tw.-scr., 10-cyl., 2-str. Fiat diesel	13,000	Shipbuilders	S. A. Ansaldo, Genoa-Sestri
—	Soc. Nav. de l'Ouest	*St. Jean* and *St. Luc*	Cargo	—	6,000 (each)	401.5 × 62.33	—	Tw.-scr., 4-str. M.A.N. diesels	6,360	—	Ch. et Atel. de St. Nazaire Penhoet
—	Argentine Govt.	*San Lorenzo* (598)	Tanker	11,633	14,500	510 × 62 × 34	—	Diesel	—	—	N.V. P. Smit, Jnr., Rotterdam
—	Mitsubishi Kisen K.K.	*San Pedro Maru*	Tanker	11,900	18,000	534.75 × 71.5 × 39	—	Sin.-scr., 8-cyl., 2-str. diesel	8,500	Shipbuilders	East Japan Heavy Industries, Yokohama
—	Peder Smedvig, Stavanger	*Vestan* (110)	Tanker	10,000	16,000	514 o.a. and 485 b.p. × 65.75 × 36.75	14.5	Sin.-scr., 8-cyl., 2-str. Gotaverken diesel	7,000	—	Oresundsvarvet A/B Landskrona
Feb. 23	K. & B. Pronk, Groningen	*Pollux* (88)	Coaster	370	470	150.3 o.a. and 141.1 b.p. × 23.3 × 10.5	9.5	6-cyl. M.A.N. diesel	300	—	Gebr. Muller, Foxhol
Feb. 27 & 28	Kon. Paketvaart Maats, Rotterdam	*Minjak* (923)	Cargo	992	1,380	221.7 o.a. × 35 × 16.3	9.75	8-cyl. Stork diesel	525	—	Pot Bros., Bolnes
Mar. —	Cie. de Transports Oceaniques	*Tomoe* (625)	Cargo	4,666	7,300	433 o.a. × 59 × 25.9	15.5	8-cyl., 2-str. Sulzer diesel	5,600	—	Werf de Noord, Alblasserdam
Mar. 5	Olaf Ditlev-Simonsen, Jnr., Oslo	*Vigan* (330)	Cargo liner	5,713	9,250	430 b.p. × 61.48 × 29.25	16	Sin.-scr 6-cyl., 2-str. M.A.N. diesel	6,000	Shipbuilders	Kockums M.V., Malmo

MARITIME NEWS IN BRIEF

From Correspondents at Home and Overseas

THE South American Saint Line has decided to form a South African company to which it will transfer four ships. They will carry cargo and passengers to and from the Union under the South African flag. This decision follows a visit to the Union last month by Mr. R. G. M. Street, chairman and joint managing director of the company, who had discussions with the Minister of Transport, Mr. P. O. Sauer, and the general manager of the railways, Mr. Heckroodt. The routes that the new company will serve have not yet been announced. Mr. Street said, on conclusion of his South African tour, that he hoped the company would operate within three months.

SIR ANDREW MCCANCE, deputy chairman and joint managing director of Colvilles, Ltd., Glasgow, is to be president of the Institution of Engineers & Shipbuilders in Scotland for 1951-52. New vice-presidents for 1951-54 are Mr. George Johnson, naval architect of Lobnitz & Co., Ltd., Renfrew, and Mr. A. H. S. Lewis, director and shipyard manager of John Lewis & Sons, Ltd., Aberdeen. Mr. H. S. Rowan, managing director of Rowan & Boden, Ltd., Glasgow, will be associate councillor for the latter period.

IT HAS been decided by the London General Shipowners' Society to appoint a full time secretary, and Mr. C. Soord has been appointed in this capacity. Mr. Soord, who has had over 30 years' experience in shipping, has his office in St. Michael's Rectory, Cornhill, London, E.C.3. (Telephone: Mansion House 5071.)

CAPTAIN the Rt. Hon. Lord Teynham and Mr. Peter Grayson Rawlinson have been appointed to the board of Grayson, Rollo & Clover Docks, Ltd.

THE general meeting of The Baltic & International Maritime Conference for 1951 is to be held at Stockholm on June 4-7.

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THE Jersey City Commission has approved plans for a $35 million ship, rail and truck terminal in the Craven Point section of New York harbour. The terminal, furnishing docking facilities for a dozen ships, with rail and truck loading areas adjoining, is to be built on city-owned land now 60 per cent under water. This is the second major terminal construction project contemplated for the Jersey side of New York harbour. Recently it was disclosed that the New York Central Railroad is building a 37-acre installation at Weehawken to be used exclusively by the United Fruit Company as a banana terminal. This terminal is expected to be completed late in 1951.

A NATIONAL committee to publicise shipping has been founded in Belgium. The founders include the Belgian Shipowners' Association, the Belgian Shipping Association, the Industrial Association, the Flemish Economic Association, Fabrimetal (the organisation of the metal industries), the Antwerp Chamber of Commerce and the City of Ghent.

CAPT. F. H. FISHER, assistant marine superintendent of Royal Mail Lines, Ltd., has retired. Joining the Royal Mail in 1911, his first command was the *Sambre*, in 1935. In the same year he was appointed deputy to the chief marine superintendent in London, in which capacity he had since served.

THE mediæval gates of the refurnished Seamens' Chapel of St. Andrew in Lincoln Cathedral will be unlocked by Admiral of the Fleet Lord Tovey when the chapel is reopened on June 2.

THE FIRST refrigerated cargo vessel to be loaded in New Zealand entirely by Service labour has left with a record cargo of butter. It is the 10,685-tons motor vessel *Rippingham Grange*, under charter to the Shaw Savill Line.

THE DEATH has occurred of Mr. J. J. Sautter, former managing director of Philip & Son, Ltd., Dartmouth, after a long illness.

* * * *

AN EXAMINER of the U.S. Maritime Board has recommended that the United States Lines be granted an operating subsidy in its service between U.S. North Atlantic ports and Belgium and Holland. This service is the only one now being operated by the line without a subsidy. The Waterman Steamship Co., the States Marine Corporation and the Isbrandtsen Co. opposed the subsidy, contending that it would give the line undue advantage in its competition with them.

TWO German shipowners, A. Kirsten, of Hamburg, and Sartori & Berger, of Kiel, are to open a joint service from Hamburg to U.S. and Canadian ports on the Great Lakes, operating as the Hamburg-Chicago Line. The new motor vessel *Geheimrat Sartori* will make the first sailing from Hamburg in the middle of April.

THE Regent Oil Co., Ltd., has ordered from Charles Hill & Sons, Ltd., Bristol, a coastal tanker of 375 tons. It will be engined by Ruston & Hornsby. The vessel, which will be used for special coastal operations, incorporates ballast tanks, avoiding the necessity of carrying ballast in her cargo tanks.

MR. J. STUART ROBINSON has been appointed to succeed Mr. B. C. Curling as secretary of the Institute of Marine Engineers. Mr. Curling is to retire in October. Mr. Robinson, who holds a Cambridge degree in engineering, has been assistant secretary of the Institute for the past three years.

THE North-East Yachtbuilding & Engineering Co., Ltd., Blyth, has sent a 9-ft. dinghy with a hull made of resin bonded glass to the Admiralty for testing for the Navy.

STEEL production in February was at an annual rate of 16,952,000 tons, the highest rate of production ever achieved in February.

VISCOUNT CUNNINGHAM of Hyndhope is retiring from the presidency of the Institution of Naval Architects, whose annual spring meeting and dinner was held in London last week. Viscount Cunningham who has been president of the Institution since 1948, was Commander-in-Chief, Mediterranean 1939-42. Later in 1942 he was made Naval C.-in-C. Expeditionary Force, North Africa, and in 1943 he was C.-in-C. Allied Naval Forces, Mediterranean. From 1943 to 1946 he was First Sea Lord and Chief of Naval Staff

LT.-COL AUSTIN G. BATES, a director of the Cunard Steam-Ship Co., Ltd., Cunard White Star, Ltd. and Thos. & Jno. Brocklebank Ltd., is the newly elected chairman of the Liverpool Steam Ship Owner's Association. Col. Bates is also the present chairman of the General Council of British Shipping. He is a holder of the D.S.O. and the M.C.

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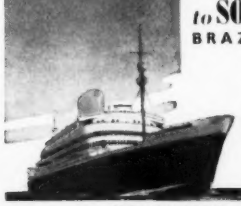

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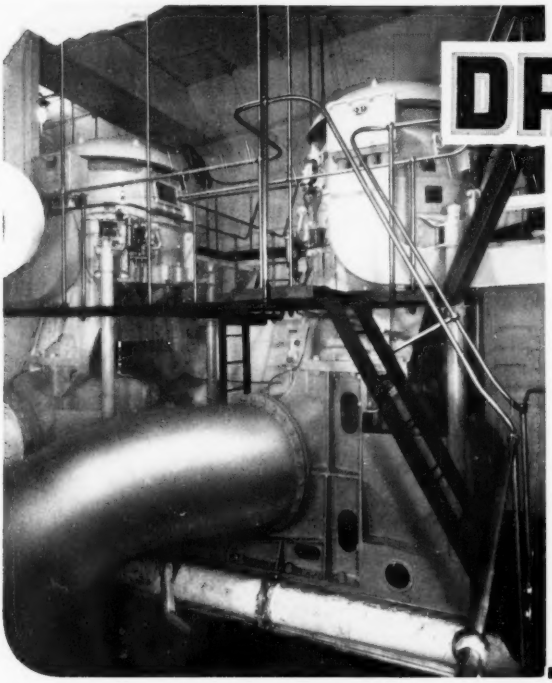

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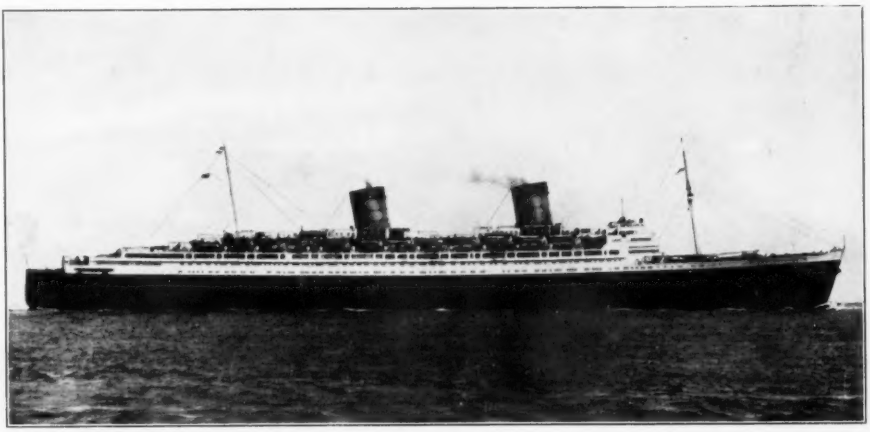

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